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CONTENTS FOR VOLUME LX

WRITERS

SUBJECTS PAGE

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PROBLEMS OF EUROPEAN RECONSTRUCTION

SUMMARY

I. War damage and its consequences: changes in economic structure, 1; destruction of property, 3; requisitions and other exactions, 6; the over-all losses, 10; war losses and national wealth, 12; effect on currency and economic recovery, 15; deflationary measures, 18; the present outlook, 21. II. Reparations: early opinions and decisions, 25; the Potsdam agreement, 26; the outlook for reparations, 29. III. The economic disarmament of Germany: plans and proposals, 32; objections to deindustrialization, 35; the Crimea and Potsdam decisions, 37; the German war potential, 38; effects of deindustrialization, 43. IV. Conclusions, 52.

I. War Damage and Its Consequences

For every country involved in the struggle, total war has meant radical changes in production and consumption, in the volume and distribution of imports and exports, and in the whole economic structure of the nation. In addition, Germany turned all countries under her domination upside down in every sphere of economic life — industry, agriculture, finance, foreign trade, manpower — and ruined them in the process. Nearly all European countries, and especially those in the West, were economically and financially intimately connected with the outer world, being dependent on imports for many of their basic industries and on exports for their surplus production. The process of fitting them into the German war economy meant, therefore, drastic reorganization of their economies. Many light and heavy industries processing imported raw materials from overseas were closed down or restricted, despite their importance for the war; many factories were removed or subordinated to German industrial groups.[1] The

1. See "Nazi Economic Imperialism," Foreign Policy Reports, August 15, 1942. Cf. Thomas Reveille, The Spoil of Europe (London, 1942), p. 256, concerning the fate of the textile industries in France, Belgium, and Holland.

dairy farming industry, based on imported fodder, was restricted in order to make room for cereals, hemp, flax, and oil seeds.[2] Some of the changes are of a lasting nature, since they involved a considerable reduction of livestock[3] and processing facilities, shifts in occupations, loss of foreign markets, and so on; but it cannot be expected that the countries concerned will want to retain these new activities, since they do not, as a rule, correspond to sound economic principles.[4] Of still greater importance will be the new European industrial set-up introduced by Germany. It involved a drastic relocation of industries, in order to make the rest of Europe dependent on German industrial production and convert all other nations into producers either of raw materials or of specific goods. This process was already apparent before the war in southeastern Europe, where the economically backward nations were induced to change from their usual agricultural production to the production of raw materials needed for German war preparations.[5] The war needs, and especially the fear of aerial bombardment, also made for major changes in the economic structure of Europe.

The scale of those changes can be gauged from the fact that, by 1942, 8,000 French factories had been closed (Das Reich, September 6, 1942); the largest steel concern in Belgium, S. A. Ougrée Marihaye, operated during the occupation at only 27 per cent of its prewar capacity (The Economist, July 8, 1944); the output of the 800 Belgian breweries did not exceed 15 per cent of the normal needs of the country (La Dernière Heure, December 13, 1944).

2. The Economist, July 8, 1944. In Holland the area of cultivated land was increased in three years of occupation by about 180,000 hectares. The area of bread grain was increased by 25 per cent, that of potatoes by 71 per cent, and of rape-seed by 1,700 per cent (Berliner Boersen-Zeitung, July 1, 1944).

3. According to Sir John Russel ("Small Farmers and Peasants of Europe Before and After the War," The Geographical Review, January, 1945, pp. 6–7), by the middle of 1942 the losses of the occupied countries in pigs were about 50 per cent, in sheep 30 to 35 per cent, in cattle 25 per cent; and the situation has become worse since then. As Sir John puts it, Europe after the war will be mainly a vast, worn-out farm. The number of pigs in Denmark decreased between June, 1940, and June, 1942, from 3,218,000 to 1,141,000, i.e., by 65 per cent (The Economist, May 12, 1945). In Poland, the country's herds of cattle now number only 2.8 million heads, as compared with 10.4 million before the war (Polpress News, August 1, 1945).

4. The forced increase of agricultural activity in these countries tends in many cases to raise the cost of living and the prices of the main articles of export.

5. A case in point is the soya bean. Germany prompted its cultivation in Southeastern Europe by special agreements. German sources (e.g. the Berliner Boersen-Zeitung, August 3, 1944) estimate the area of cultivation increased during the decade 1930–1940 from 5,000 ha. to 150,000 ha., and it is much larger now.

It will require years of strenuous effort and coördinated activities of all the nations involved to undo all these changes, to revamp the new set-up, and to revive the old pursuits or replace them with new ones. As the Germans had no regard whatever for old boundaries, properties of a multitude of nations were mixed together, combined or split up in accordance with Germany's plans or from a desire to weaken the economic positions of the countries concerned. Only by a common effort of all nations will it be possible to trace the whereabouts of the stolen and transferred goods and equipment, to decide in each case to whom a particular factory or parts thereof should be returned, or what should be removed from Germany as the equivalent of destroyed or unidentifiable goods. Reconstruction will obviously be delayed by failure to act promptly and in a coördinated way on these questions.

Destruction of Property

The task of reconstructing economic life will, no doubt, be greatly aggravated by the losses sustained during the struggle. Inasmuch as no census of property losses has yet been taken in the liberated countries, their exact amounts are unknown. We can, however, obtain a fairly accurate picture of what has happened to property from certain reports already available.

The French Ministry of Reconstruction and City Planning estimated in an earlier survey that between 1,200,000 and 1,500,000 buildings had been destroyed or damaged since the outbreak of the war, as against 927,000 during the First World War.[6] The cost of clearing the wreckage, rebuilding the houses and industrial and agricultural plants and enterprises was given in the Session of the French Consultative Assembly on March 3, 1945, at 1,236 billion francs.[7] The latest tabulation (up to June 30, 1945) lists 1,361,400 buildings damaged and 442,800 totally destroyed, among them 166,800 industrial and commercial structures damaged and about 50,000 destroyed.[7] A special French commission recently appraised the destruction of property resulting from the German occupation, Allied bombing, and the German retreat through France at 1,832,000,000,000 francs of current value.[8] On the other hand,

6. French Press and Information Service, Report of January 9, 1945.
7. Files of the French Press and Information Service.
8. Report of the Ministry, dated August 1, 1945 (files of the French Press and Information Service). In this figure are not included losses suffered through excessive use of machinery by the Germans, and similar damages, estimated at 258 billion francs.

P. O. Lapie, member of the Foreign Affairs Committee of the French Consultative Assembly, in a report submitted to the Government in the name of the commission, estimated the amount of reconstruction costs at 2,500,000,000,000 francs.[9] It is obvious that French property other than buildings also suffered damage; consequently, the above mentioned amount of 1,236 billion francs could not constitute the total damage to property. However, M. Lapie included in his report losses suffered through German removals of locomotives, cars and other equipment. The figure given by the damage commission would therefore seem to represent the French estimate of actual property damage through war activities.

The commission assumed that a franc of today is to the franc of 1939 as 1 to 3.4; this would reduce the amount of the damage to some 540,000,000,000 francs of prewar value. However, the total value of all French dwellings in 1939 was estimated at about 400 billion, and that of all buildings at 500 billion francs.[1] Since, according to M. Lapie, only one house out of every 40 was completely destroyed and not all the rest damaged, the actual damage to buildings, including depreciation resulting from lack of repairs during the occupation (estimated by the French Supreme Council of Industry at 80 billion prewar francs[2]) will probably amount to one-half of its prewar value, i.e. some 250 billion prewar francs. If we add the damage caused to other properties, such as railroads, ports, movables, and machinery the total figure may well reach the 300 billion level. This estimate of some 170 billion prewar francs, or four billion dollars, for the damage to real estate seems rather high, when compared with British figures. According to official data, about 3,500,000 properties were damaged in Britain, including 1,400,425 in the London region alone. The total cost is estimated at 4.88 billion dollars.

9. Pour la Victoire, August 4, 1945. The report lists, among other losses, 120,000 industrial establishments destroyed; 250,000 farms damaged; 40,000 completely destroyed; 1,100 bridges destroyed, and so on.

1. N. Mnogolyet, "French Economy in the Conditions of Occupation," Mirovoye Chozyaistvo i Mirovaya Politika, Moscow, 1944, Nos. 7–8, p. 58.

The figure of 500 billion francs represents one-fourth of the total French wealth. This percentage would seem to be rather high, if we consider that, according to an estimate by M. Théry for the year 1912, the value of all buildings was only some 20 per cent of the total wealth. (See Sir Josiah Stamp, Studies in Current Problems in Finance and Government, London, 1924, p. 313.)

2. Mnogolyet, loc. cit.

The "blitz" of 1940 may not have wrought such tremendous destruction in Belgium, but the damage declared up to March 31, 1943, was said to amount to 10 billion francs.[3] It must be remembered, however, that the losses suffered by emigrants and refugees were probably not included, and that other persons had probably not all made full declarations. The damage to public property in Belgium (exclusive of the losses inflicted during the von Rundstedt offensive), i.e. to railways, ports, highways, and public buildings, was reported to amount to some 4,500,000,000 francs, or over 100 million dollars.[4] Somewhat earlier reports[5] set the damage done to railways alone by December 31, 1944 (i.e. including part of the losses suffered during the von Rundstedt offensive) at 4,926 million francs, or 113 billion dollars. If we assume that in Belgium the value of public property is about 10 per cent of the total national wealth,[6] and that private property suffered proportionally almost the same amount of damage as inflicted on public property,[7] and if we consider the damage suffered during 1940 and the Rundstedt offensive, and assume that the franc of today is worth only a little more than one-half of the franc of 1939, we may arrive at an estimated property damage of 30–35 billion prewar Belgian francs, which would seem to be low in comparison with over 10 billions worth of damage done in 1940.

Similar material losses must have been suffered by other war-stricken countries. For instance, the Netherlands Statistical Bureau has estimated the losses suffered through destruction and

3. Le Drapeau Rouge, November 7, 1944, quoted in News Digest No. 1605.

4. News from Belgium, June 30, 1945, which contain a detailed account of the losses.

The von Rundstedt offensive and the flying bombs are reported to have inflicted three billion francs of damage. Damage to personal property was unofficially estimated at 15 billion francs of prewar value (ONA, September 1, 1945).

5. News from Belgium, June 16, 1945.

6. According to Corrado Gini, "Quelques chiffres sur la richesse et les revenus nationaux de quinze états," Metron, July, 1923, the ratio of public to private wealth was 1:11.

7. M. Pauwels, Minister of war victims, gave the figures of 14,392, 25,534, and 56,219 for houses totally destroyed, to be razed, and damaged but reparable (News from Belgium, May 26, 1945). The extent of destruction may be gauged from figures on wrecked and destroyed houses published by Le Soir (see News from Belgium, July 21, 1945). For instance, of the total number of 31,088 houses in Liège, 21,687 were wrecked and 2,067 destroyed; the figures for Antwerp are 43,778, 13,669 and 2,369, respectively.

inundation of the harbors of Rotterdam and Amsterdam alone at 2.2 billion prewar guilders.[8] A computation made for Rotterdam shows that 240 million dollars are needed to rebuild 30,000 houses and factories and 2,300 stores; the damage to the port of Amsterdam alone is reported to amount to 37 million dollars.[9]

According to Russian accounts,[1] in the occupied regions of RSFSR alone about one million dwellings and over 850,000 other buildings were destroyed; while an AP dispatch from Moscow dated July 8, 1945, reported that a petition signed by citizens of White Russia revealed the destruction there of 1,215,000 houses and village buildings. According to official figures made available to the Reparations Commission, the Germans totally or partially destroyed in all of Russia 1,710 towns, more than 70,000 villages and 6,000,000 buildings; industrial losses include 31,000 industrial enterprises and certain coal mines, power stations and oil wells destroyed. In Greece, about 401,000 buildings out of a total of 1,730,000 (i.e. 23 per cent) were destroyed.[2]

Requisitions and Other Exactions

Physical destruction of property is not the only damage the war has wrought. The enormous costs of maintaining armies in the field have everywhere resulted in great wear and tear of industrial equipment and the using up of stockpiles accumulated in the course of years and even decades preceding the war, and, in many cases, in enormous foreign indebtedness or, at best, in a considerable reduction of foreign holdings. The fact that many countries were knocked out of the war as early as 1940 did not change the situation for them, since Germany has waged her war in part at the expense of the occupied and subjugated nations. A German Foreign Office spokesman has admitted that the annual tribute from countries under Nazi control approximated seven billion dollars.[3] The actual sums must have been much greater.[4]

8. New York Times, June 25, 1945.

9. Netherlands News, June 1, 1945.

1. Pravda, July 18, 1945. In some districts, of 6,000 houses only 32 remained; of 3,450, 8; and of 8,679, 577.

2. "War Ravages in Greece," The Statist, May 5, 1945, which contains a detailed account of the losses.

3. F. N. Brewer, "War Reparations," Editorial Research Reports, II, No. 14, October 19, 1944, p. 245.

4. The Neue Zuercher Zeitung, of January 19, 1944, estimates the German "income" from "occupation costs" in the fiscal year 1942–43 at 20 billion marks, or about eight billion dollars.

One of the methods used by Germany to finance the war at the expense of the occupied countries was the outright removal of armaments and stocks accumulated by these countries for war and industrial purposes and of railways and shipping equipment. In France, according to the above-mentioned report of M. Lapie, only 5,157 locomotives out of 17,058 and 253,345 cars out of 455,000 remained;[5] France lost 61.9 per cent of her merchant marine. Of the 460,000 vehicles which France possessed in 1938, only 88,000 small trucks remained in 1945.[6] In Belgium, of the prewar total of 3,500 locomotives some 1,000, and of 100,000 cars some 55,000, remained.[7] In Holland the Germans are reported to have stolen in 1940 alone 32,000 cars and 907 locomotives.[8]

There were two other main designations for German exactions. The first was "occupation costs," imposed on the occupied countries far in excess of the actual costs of armies of occupation. The second was the "one-way goods traffic," instituted by way of barter "agreements" between Germany and the subjugated or dominated countries. Even before the war the Germans had developed a system assuring them import surpluses in their barter trade with foreign nations; now the export from these countries without counter-balancing imports grew enormously in volume, the administrative machinery of these nations being in German hands. The sums derived from these two sources are given in columns 1 and 2 of Table I. Up to August 31, 1944, they aggregated 26.4 billion dollars for the countries enumerated. The actual amounts must have been much larger, however, since certain figures are lacking, and not all the countries are listed; besides, as may be seen from the footnotes, the governments of the countries concerned assume much higher figures than those given in the table. There was a third source of income for Germany, namely, the sale of German government bonds and the issue of occupation marks. According

5. Other reports (Free France, March 1, 1945) speak of the loss of 50 per cent of locomotives and 75 per cent of railroad cars. M. Dautry estimates that rolling stock, locomotives, and cars have been reduced to one-fifth of the prewar figure (Ibid., January 15, 1945).

6. Ibid., February 15, 1945.

7. News from Belgium, May 12 and June 16, 1945.

8. Netherlands News, July 15, 1945. Representatives of the Dutch Railways are reported to have declared that the Germans had sent into the Reich all but 1,100 of the country's 30,000 freight cars and all but 230 passenger cars, of which the Netherlands had 2,000. (The New York Times, June 13, 1945.)

TABLE I

OCCUPATION COSTS, CREDIT BALANCES AND OTHER PERTINENT DATA[a]

Country	Occupation Costs (in Million Dollars) up to August 31, 1944	Credit Balance in Favor of the Occupied Country (in Million Dollars) up to August 31, 1944	Note Circulation (in Millions of Local Currency Units)		Public Debt (in Millions of Local Currency Units)		Bank Deposits (in Millions of Local Currency Units)		Price Indices (September, 1943) 1938 = 100	
			End 1938	1934	1939	1943	1939	1943	Wholesale	Retail
France	10,500[b]	2,300[c]	109,000	468,000[d]	414,000	1,260,000[e]	60,000	180,000	249	209
Belgium	1,700	1,440[f]	23,000	81,000[g]	57,000	128,000[h]	14,600	33,700	172	162
Netherlands	2,500[i]	2,300[i]	993	3,041[j]	3,986	9,800	1,063[k]	1,973[k]	165	140
Norway	2,200	.....	504	2,000	1,450	10,000	.....	.....	176	151
Denmark	540	39[l]	.....	1,658[m]	.....	.....	.....	.....	198[n]	..
Bohemia and Moravia	540	1,260[o]	.....	34,879[p]	.....	.....	.....	.....	.....	..
Serbia	270[q]	.....	8,000	35,000[r]	.....	.....	.....	.....	.....	..

a The first two columns are from a report by the British Ministry of Economic Warfare published in The New York Times, October 11, 1944; the rest from The Economist, June 10, 1944, unless otherwise indicated. Figures on these items can also be found in the Fourteenth Annual Report of the Bank for International Settlements, Basel, End of 1944.

b According to official French estimates, the French Government paid Germany and Italy a war indemnity totaling 964 billion francs (18,920 billion dollars at the present rate of exchange) during the four years of occupation (The New York Times, October 20, 1944). The Statist, January 20, 1945, reports an official estimate of 860,000 million francs. Up to the end of 1943, this was supposed to amount to 642 billion francs, or 32.1 billion marks, and the Vichy budget for 1944 provided for additional 197.4 billion francs (Vnyeshnyaya Torgovlya, No. 6, 1944, p. 13).

c The Neue Zuercher Zeitung, January 19, 1944, estimated this amount for the end of 1943 at 98.5 billion francs, or 4.9 billion marks. A report from Paris put the amount at 3.2 billion dollars (The New York Times, March 21, 1945).

d The amount was 632 billions on October 5, 1944 and 589 billions on May 8, 1945 (The Economist, June 9, 1945).

e The Statist, January 20, 1945, estimated the national debt, as of August, 1944, at 1,523,000 million francs

f According to the League of Nations Monthly Bulletin, May, 1945, the reichsmark balance was 63,443 million francs in August, 1944.

g According to Le Peuple, December 7–8, 1944, the amount was 63 billions in 1940 and over 150 billions in August, 1944. The League of Nations Monthly Bulletin puts the last figure at 100,319 millions.

h According to Le Peuple, December 7–8, 1944, the amount was 66 billions in 1940 and 183 billions in August, 1944. It is now over 200 billions (News from Belgium April 7, 1945).

i The Dutch estimated that they have paid four billion dollars in occupation costs and have a credit of two billion dollars in "commercial" relations with Germany (Knickerbocker Weekly, April 17, 1944). The foreign credits of the Bank of Netherlands on July 1, 1944, were 4,212 million florins, or 2,310 million dollars (Berliner Boersen-Zeitung, July 10, 1944). The League of Nations Monthly Bulletin gives the figure 4,518 million guilder foreign assets, consisting almost wholly of reichsmark.

j The amount was 5,078 million in December, 1944 (The League of Nations Monthly Bulletin).

k Part of banks only.

l This figure is too low. At the end of July, 1944, the clearing credit of the Danish National Bank was 2,500 million kroner, or 560 million dollars; the greatest part of this amount refers to Germany (Berliner Boersen-Zeitung, August 12, 1944). The League of Nations Monthly Bulletin gives the figure 2,762 million kroner for December, 1944.

m As of December, 1944 (The Economist, January 27, 1945).

n The Economist, January 27, 1945.

o According to The Statist, June 9, 1945, the claims of the Prague National Bank against Germany amount to about 100,000 million crowns; the League of Nations Monthly Bulletin puts its reichsmark balance in December, 1944 at 56,851 million.

p As of December, 1944 (The League of Nations Monthly Bulletin).

q Serbia and Banat paid 22.3 billion dinars contribution in cash, apart from expenses for the maintenance of occupation troops (4.3 billions) and labor service (6.2 billions). Borba, November 23, 1944, cited in News Digest, January 2, 1945.

r According to a report by the official Yugoslav Agency, the note circulation consisted at the beginning of 1945 of 35,000 million Serbian dinars and 120,000 million Croatian kunas (in addition to the currencies of the occupants). (The Statist, June 9, 1945).

to German sources,[9] these two means of exploitation had, by the end of 1942, yielded to Germany 20.5 billion marks from the Protectorate and Holland alone. Since the amounts collected for "occupation costs" were, as stated above, used only in part for their declared purpose,[1] very considerable sums remained to buy up stocks and other goods, in addition to swallowing up many economic and financial enterprises.[2] The amounts of unpaid-for goods, a large part of the "occupation costs," the "loans" and notes thus represent to a very high degree actual losses in goods and other assets sustained by the countries concerned.[3]

The results of direct looting, forced exports, and other means of draining all available reserves can at present be tabulated only provisionally and tentatively; this is due to lack of authentic data and in part to inevitable overlappings among the different "titles" of exactions, as well as the fact that certain "acquisitions" by the Germans have been invalidated, e.g. participations in the country's banking, industrial, and commercial enterprises. We may obtain some idea of the extent of this from German reports[4] that the amount of raw materials and consumer goods available in Denmark declined through exports within a year of German occupation by about 600 million kroner. The French Institut de Conjoncture published "official" figures on German agricultural "pillage"; they include 254,500 horses, over 67 million tons of iron ore, almost 3.5 million tons of cast steel, over 28 million quintals of wheat, and so on.[5] In Holland, the Germans are reported to have shipped to Germany during the first two years of the occupation, among other items, 170,000 pigs, 35,000 cows, 57,000 tons of butter; while the "exports" during 1942–43 included, among other

9. Die Bankwirtschaft, 1943, No. 5.

1. According to Russian estimates (see R. Levin and J. Goldstein, "Peculiarities of the Economic and Political Expansion of the German Fascist Imperialism," Mirovoye Chozyaistvo i Mirovaya Politika, 1945, No. 1, p. 52), the actual expenses of the armies of occupation amounted to one-quarter of the sums levied for that purpose.

2. For example, Germany is reported to have bought 4.5 billion florins worth of Dutch assets and to have paid in marks (statement by Mr. Houwing of the Directorate of the Amsterdam Bank, Netherlands News, July 1, 1945).

3. The Germans frankly admitted that the subjugated agricultural and industrial nations were forced to export large parts of their accumulated stocks, thereby causing a decrease in national wealth ("Exportvorschuesse," Das Reich, November 9, 1941).

4. "Land in der Umstellung," Das Reich, January 4, 1942.

5. Free France, May 1, 1945.

things, 50,997 head of cattle, over 77 million electric bulbs.[6] A Government Economic Commission reported that the Germans had "stolen" from the Netherlands 220,000 cows, 105,000 horses, 80,000 automobiles, 50,000 trucks, 24,000 busses, and nearly 4,500,000 bicycles.[7] The general situation created through such action was briefly but very eloquently characterized by Dr. Menton, chairman of the Netherlands Foundation for Reconstruction, in the following words: "If I were to describe Holland as it is today in a phrase, I would say that it is empty. There is almost nothing left."[8]

The Over-All Losses

Although no exact computations are available of the over-all losses suffered by the countries involved in the war, certain figures have already been published. Professor Atwood Townsend estimated the damage done by Germany to the United Nations at £127,000 million; of this amount, £58,000 millions are credited to Russia, the rest to other United Nations. Professor Townsend puts the damage to homes, factories, railways and ships at £28,250 million, the theft of plants and machinery, objets d'art, furniture, cattle, etc. at £25,000 million, and the actual war expenditures at £73,750 million.[9] Other unofficial estimates[1] put the amount of destruction of land and property in Europe at $100 billion; loot, official and private, $100 billion; war expenditures, $295 billion. These figures were published before the conclusion of the European war and in advance of official estimates by various nations; they will, therefore, hardly prove to be near the actual losses.

The special government commission charged with computing the war damage sustained by France estimated it at 4,893,000,000,000 francs, or $97,860,000,000 at the current rate of exchange.[2] On the basis of the 1939 price level, this figure would amount to

6. Netherlands News, July 15, 1945.
7. New York Times, July 28, 1945.
8. Ibid., July 25, 1945.
9. "The Reparations Problems," The Statist, March 31, 1945. Research experts of the American University were reported to have estimated Axis loot from other countries at about $80,600,000,000 and the war expenditures of the United Nations at $558,090,000,000. (New York Times, May 31, 1945.)
1. New York Times, March 18, 1945. It is probable that the source is the same in both cases.
2. Earlier, M. Raoûl Dautry, Minister of Reconstruction, had set the total losses at 3,000 billion francs. (French Press and Information Service, January 9, 1945.)

1,439,000,000,000 francs, or $28,765,000,000. Of the total amount in current francs (in addition to the figures given above), 359 billions are said to be the minimum outlay necessary to cover pensions and allocate relief and other grants to war victims; 2,342,000,000,000 francs represent spoliation; and 102,000,000,000 francs are for special levies by the Germans during the occupation.

The figures presented for other countries are of the same magnitude. Mr. Trip, head of the Netherlands Bank, estimated the cost of the German occupation, civil administration, and the money necessary to liquidate the conditions created by the Germans and their helpers at 18 billion guilders.[3] Mr. Huysman, Dutch Minister of Finances, put the cost of the occupation in the narrowest sense at eight billion guilders, of which some two billions are extraordinary war damages.[4] Rough figures issued by the Netherlands Statistical Bureau estimate the total war damage (excluding robberies from railways, factories and individuals amounting to several billions) at more than 15 billion guilders in terms of 1938 price levels; of this figure, 2.2 billions represent material damage; 1.5 billions, fines; 1.5 billions, worn-out equipment; three billions, depleted stocks; 5.6 billions, actual occupation costs; and 1.6 billions, increased exports to Germany in Reichmarks. However, the actual cost of rebuilding will amount, according to the estimate, to only 10–12 billion guilders, inasmuch as some of the figures may overlap at certain points.[5]

According to a dispatch from Rome dated March 18, 1945, war damage in Italy up to that date was estimated at over one trillion lire, or about 10 billion dollars. However, the Ministry of Reconstruction later estimated the over-all Italian war damage at

3. Knickerbocker Weekly, May 28, 1945.

4. Netherlands News, June 15, 1945; see also ibid., July 1, 1945, for an account of the expenses during the occupation.

5. New York Times, June 25, 1945.

According to Knickerbocker Weekly, September 3, 1945, the damage inflicted on Holland consists of 7.7 billion prewar guilder worth of property destroyed, damaged and looted, and of 2.8 guilder worth of foreign assets and gold stolen. The property losses consist of a reduction in the "production plant" value, divided as follows:

Agriculture, 20 per cent of the value in 1939.
Industry, 40 per cent of the value in 1939.
Commerce, 58 per cent of the value in 1939.
Transport, 56 per cent of the value in 1939.
Public works, 20 per cent of the value in 1939.
Houses, 20 per cent of the value in 1939.

two trillion lire, or $20 billion.[6] In the Ukraine alone the damage done was estimated by the Red Star at 100 billion dollars,[7] although the magazine Bolshevik put the total damage in the Soviet Union at only 50 billion.[8] Official Russian estimates[9] put the total damage to the Union and its citizens at 679,000,000,000 rubles, or about 135 billion dollars at the official rate of exchange. This figure takes no account of the value of food supplies confiscated, war expenditures and indirect losses. Included in the value are 7,000,000 horses, 17,000,000 cattle and equally large figures for other animals, as well as the losses suffered by railways (among them, 13,000 bridges, 15,800 locomotives and 428,000 cars). It must, however, be remembered that the purchasing power of the ruble is much lower than its exchange rate would suggest. Reduced to the real value of the Russian currency, the amount of 679 billion rubles would hardly exceed the amount of 50 billion dollars. The cost of occupation in little Norway is estimated at 10 billion kroner,[1] while accumulated clearing credits and various enforced contributions to Germany's war economy may have amounted in Denmark by the end of occupation to about eight billion kroner.[2]

War Losses and National Wealth

The gravity of the losses a country has suffered can be properly measured only by comparison with the amount of its wealth and income.[3] The private wealth of France at the beginning of 1939 was estimated at 1,400 to 1,450 billion francs,[4] and the national

6. New York Times, July 26, 1945.
7. Dispatch from Moscow dated May 26, 1945.
8. New York Times, April 21, 1945; the same figure was given by M. Pierre Cot (Edgar Snow, "The Ukraine Pays the Bill," Saturday Evening Post, January 27, 1945).
9. New York Times, September 14, 1945. The losses were computed on the basis of the 1941 prices (Information Bulletin of the Embassy of the Union of Soviet Socialist Republics in Washington, September 18, 1945).
1. The Economist, June 2, 1945. It is now reported that Norway's Foreign Minister declared his county would present a bill of four billion dollars as its claim against Germany. It may be well to recall that in 1927 the national wealth of Norway was estimated at some $3.7 billion (The Economic Forces of the World, Dresdner Bank, Berlin, 1930).
2. New York Times, May 12, 1945.
3. Although the figures on national wealth are of relative value only, in view of the uncertainties in their computation, it may be useful to cite them here in order to arrive at an approximate evaluation of the losses suffered.
4. P. Sauvy and T. Rivet, "Fortune et revenu national," Revue d'Économie Politique, January-February, 1939, p. 385, footnote 1.

income in 1938 at 250–260 billion francs.[5] Now, the French war damage commission estimates the wealth in 1939 at two trillion francs, and the prewar national income at 300 billion francs. Obviously, the huge damage and exactions hit partly the national wealth and partly the national income. The income during the war could not be so large as in prewar times, simply because of the detention by Germany of French war prisoners, estimated at 1.5 million, and the deportation of over a million French laborers to Germany. These factors, together with the stoppage of imports,[6] the German economic policies and dislocation of production, caused a sharp reduction of economic activity there. According to German sources,[7] the output of French agriculture decreased by some 40 per cent in comparison with the prewar period. Figures available on the extent of industrial production show even larger decreases. For instance, in 1942 only 9.95 million KW electric energy were produced, as against 18 million in 1938,[8] while the production of pig iron in 1941–42 constituted only 16 per cent of that in 1929. No wonder the Germans, themselves,[9] had to admit that from the standpoint of French national economy French industry produced no value whatsoever; on the contrary, its capital was decreasing by five billion francs annually.

In view of these facts, we may safely assume that the French national income during the occupation must have been reduced at least 40 per cent, as compared with prewar figures; that is, it may be put at 170–180 billion francs of the 1938 price level, even if the higher income figure of 300 billions is accepted. The French war damage commission estimates that of 1,439 billion francs (1939 value) total losses, about 540 billions were covered out of national income, while the remaining 900 billions were paid out of the national wealth. This would represent a decrease of wealth by 45 per cent.[1] Actually, the payment of 540 billions in four years of occupation would represent 135 billions annually, or about

5. World Economic Survey, 1938–39; Sauvy and Rivet, loc. cit., p. 372.

6. According to Pariser Zeitung, November 20, 1943, France had in 1942 only 25 per cent of the textile raw materials she had consumed in 1938; in 1943 the percentage fell to 10–15.

7. Frankfurter Zeitung, August 19, 1943, cited in Mnogolyet, op. cit.

8. Pariser Zeitung, June 6, 1943, cited in Mnogolyet, op. cit.

9. Frankfurter Zeitung, February 16, 1943, cited in Mnogolyet, op. cit.

1. Ministère de la Reconstruction et de l'Urbanisme. Direction du Plan. Survey as of August 1, 1945. Files of the French Press and Information Service.

three-fourths of the probable income — hardly a possible task for a nation with a greatly reduced income. It must, furthermore, be considered that national income consists not only of the industrial and agricultural output, but also of revenues from commerce, transportation, services, rents, dividends, and so on, which income groups could be used for purposes of German spoliation to a smaller degree only, if at all. But even if we put the actual value of destruction and depreciation at only 350 billion francs of 1939 value, instead of the 615 billions accepted by the Commission, and consider only the approximately 900 billion francs of "occupation costs" and unpaid-for goods (instead of 689 billion francs of 1939 value "spoliation," as estimated by the Commission), the losses will still be very high. We may assume that of the 900 billion francs some 650–700 were used to "buy" goods from France (including in this figure direct removals), and that the bulk of them were "bought" at lower prices than those prevailing in 1945; the loss France suffered in these commodities must then have amounted to some 450-500 billion francs of prewar value. The reduced volume of current production, as indicated above, could hardly have provided a "surplus" to be shipped to Germany of more than some 25 per cent of the total national income; this would bring the exportable "surplus" during the four years of the occupation to about 180 billion prewar francs, while the national wealth would have been reduced by some 300 billion francs. Adding the value of the destruction, we arrive at a total of 650 billion francs of prewar value, which at this conservative estimate constitutes about one-third of France's total wealth in 1939.

It may be useful to compare these losses with the damage France suffered during the First World War. According to Professor Charles Gide,[2] if an inventory had been taken of France in the shape of its private fortunes, only about one-half would have been left at the end of that war. This estimate obviously refers not to war losses alone but to the total cost of the war. In fact, Mr. Dautry has declared that in 1918 French financial losses were estimated at 78 billion francs;[3] this is the amount of claims recognized as well founded.[4] Now, M. Réné Pupin[5] estimated the value

2. Charles Gide and William Oualid, Le bilan de la guerre pour la France, Paris and New Haven, 1931, p. 77.

3. French Press and Information Service, January 9, 1945.

4. Gide and Oualid, op. cit., pp. 170ff.

5. Réné Pupin, La richesse de la France devant la guerre, Paris, 1916, p. 103.

of French private wealth in 1911 at 285.5 billion francs. Even if there were no increases in prices during the war, the financial losses would have amounted to about 25 per cent of the original wealth.

The loss of one-third of the national wealth may be regarded as quite high in comparison with other countries, although the per capita amount of the "occupation costs" and balance of trade was much greater in Holland, Belgium, and Norway than in France, amounting in Holland, for example, to about $700 as against only $320 in France. War-torn and ravaged Greece claims only that 30 per cent of its wealth was lost during the war.[6] The national income of Holland in 1938 was 4.7 billion guilders, or 2.6 billion dollars,[7] and the national wealth in 1939 was estimated by the Netherlands Statistical Bureau at 30 billion guilders.[8] Proceeding on approximately the same assumption as in the case of France, we arrive at the conclusion that of Holland's losses, estimated at 10 to 12 billion guilders in terms of the 1938 price level, only some three billions could have been covered by current production, the remainder of seven to nine billion guilders representing a decrease of some 25–30 per cent in the country's wealth.

Effect on Currency and Economic Recovery

Nowhere have the tremendous costs of war and occupation been met out of taxes and other current revenues, the result being an enormous increase in the public debt (see Table I, col. 4). A very large part of these costs must have been covered by loans and extensions of credits granted to the state by the banks of issue.

6. New York Times, October 26, 1944 Cf, however, the above given figure on Norway.

Unofficial estimates put the total damage to Belgium at 92 billion prewar francs or 230 billion postwar francs Industrial damage represents 20 billion prewar francs; renewal of industrial equipment, 17 billion; soil exhaustion, 5 billion Other items are indicated above

The national wealth of Belgium was estimated at 10,710 and 10,769 million dollars in 1926 and 1928, respectively (Dresdner Bank, op cit and World Almanac, 1932) For 1939 an amount of some 400 billion francs might be accepted. The above given unofficial total would represent a loss of some 20 per cent of the national wealth, if the income is taken into consideration.

7. World Economic Survey, 1938–39.

8. Verrijn C. A. Stuart (see "Volksvermoegen und Volkseinkommen in den Niederlanden," Bulletin de l'Institut International de Statistique, XXV, livr. 3) gives the amount of 21.713 billion guilders for 1927.

The Dutch estimate their national income in 1939 at three billion guilders and the income in 1945 (at the May level) at some 40 per cent of this amount (Knickerbocker Weekly, September 3, 1945).

In France, for instance, the Bank of France advanced to the state 426 billion francs for this purpose.[9] The result was an ever-growing note circulation in all countries, as is evident from the figures given in column 3 of Table I. On the other hand, the vast sums of money paid to the "sellers" of products and property shipped to Germany, as well as to the owners of enterprises "bought" by German interests, have, in consequence of the scarcity of goods and other investments (except government bonds), swollen the bank accounts in all the countries concerned; this increase is reflected in the figures given in column 5 of Table I. It must be stressed that the increase in the public debt, note circulation, and bank deposits has been much greater on the continent than in Great Britain, despite the fact that England has spent up to 60 per cent of her total income to finance the war.[1] A comparison of these items in France and Great Britain by the end of 1943 (note circulation) or May, 1943 (public debt and bank deposits) show that they had increased, as compared with the end of 1939, by the following percentages:

	France Per Cent	Great Britain Per Cent
Increase in note circulation................	230	90
Increase in commercial bank deposits	133	49
Increase in the public debt...............	162	100[2]

This increase in the public debt, note circulation and bank deposits represents a very great rise in potential purchasing power. Actually it produced, when liberation came, much greater price

9. New York Times, January 12, 1945. The National Bank of Belgium loaned the State 11,477 million francs during occupation, mainly to finance German occupation (The Economist, February 10, 1945, p. 189).

1. It must be remembered, however, that Great Britain has been obliged to contract huge foreign debts, estimated for the end of 1944 at 12 billion dollars, in the sterling area alone, and received lend-lease goods for a probably even larger amount. This in addition to £2 billion of prewar capital assets abroad drawn upon or destroyed (The Economist, July 28, 1945).

2. The Economist, February 5, 1944. The figures for Germany, in millions of marks, are as follows:

	1939	1943
Note circulation (Reichsbank only)	11,798	31,772 (November)
Clearing	125,000	319,000 (May)
Public debt (official data)	34,100	227,900 (August)

The foregoing data are taken from the Neue Zuercher Zeitung, January 4, 1944, and Vnyeshnyaya Torgovlya, Moscow, 1944, No. 6. The note circulation in October, 1944, was 44,700, according to the Hamburger Fremdenblatt, November 17, 1944, and 73,500 at the end of the war, according to computations by American military government officials (New York Times, August 29, 1945).

increases than is reflected in the price indices given above. It is reported, for instance, that prices in France have increased threefold since April, 1940;[3] that salaries in Belgium have had to be augmented 60 per cent, but that this increase has already been absorbed by a rise in living costs.[4] No doubt prices for certain goods are even higher than these figures reveal and are bound to increase further, unless effective measures are taken immediately. The situation is much worse in other countries, especially those less developed economically, and, possibly, even worse exploited by Germany. The Greek currency was inflated to such an extent that the Greek Minister of Reconstruction had set the value of the drachma at 15,000,000 to the dollar, whereas, before the war, the rate of exchange was only 125 drachmas for one dollar.[5] In the parts of Poland liberated in 1944, workers received about 5,000 zlotys a month,[6] whereas the average wage in the Lublin region before the war was 23.15 zlotys a week; [7] this would indicate a fifty-fold increase in the cost of living. Actually, the cost-of-living index in May, 1944, was 70 times greater than in 1938; 210 times greater in January, 1945; 120 times greater in June, 1945.[8]

In Italy note circulation rose in 1943 to 96 billion lire, but increased by the end of 1944 to 233 billions in the Allied-occupied zone and to a similar amount in the German-held part.[9] Obviously, the lowering of the exchange rate (100 lire to the dollar, as against about 20 in 1938) is not sufficient to make up for these increases.[1] Prices of all commodities have risen accordingly.[2] Conditions are hardly better in Yugoslavia,[3] Rumania and Bulgaria.

3. New York Times, January 12, 1945.
4. Franc-Tireur, December 12, 1944.
5. New York Herald-Tribune, October 9, 1944.
6. New York Times, January 8, 1945.
7. Concise Statistical Yearbook of Poland, 1938, Warsaw, p. 255. According to a statement by the Lublin Minister of Finance, the depreciation of money has reached a stage in which barter has become almost the only form of trade transactions (The Economist, January 27, 1945).
8. Figures given by representatives of the Polish Provisional Government (New York Times, July 13, 1945).
9. The Statist, June 30, 1945.
1. On Rome's "official" black market the rate is about 300 lire to the dollar (New York Times, July 27, 1945).
2. An ordinary automobile, which used to cost 40,000 lire new, now costs 600,000 to 650,000 lire used; shoes from $50 to $70 a pair; a suit of clothes sells at $150 to $300 (New York Times, January 21, 1945).
3. There were eight different kinds of currency circulating in Yugoslavia (Borba, November 23, 1944, cited in News Digest, January 2, 1945,

The bearing of inflation upon the economic recovery of the countries affected is evident. In countries with a large middle class living on savings, this decrease in the value of the currency means a considerable decline in the purchasing power of a very important section of the population and economic ruin for thousands of them. It also means a drop in savings — so essential in time of reconstruction — once confidence in their stability is gone. Inflation will also greatly complicate imports and exports, as well as financial transactions with foreign countries. In those cases where the old exchange rate is maintained,[4] strict currency control will be necessary, but this will not suffice to solve the problem of reducing export prices to competitive levels, nor that of adjusting import commodity prices to the high domestic prices.[5] Hence all international exchange of goods will have to be brought under governmental control, subsidies for exports and levies on imports will have to be introduced, and these measures will not fail to reduce both of them, to disrupt the normal functioning of the price system, and to jeopardize the whole reconstruction scheme, so dependent on the flow of foreign goods. If the fate of the currency should be left to itself, we must expect ever growing devaluation in relation to foreign currencies, with consequences only too well known from past experience.

Deflationary Measures

The menace of inflation has been long since recognized by the various governments, and some of them prepared plans for meeting it while still in exile. Drastic deflationary measures have been put into effect in Belgium and Luxembourg. In Belgium the financial decrees of October 6, 1944, declared invalid all notes in denominations of more than 100 francs. These notes had to be exchanged for new ones, but only amounts not exceeding 2,000 francs were actually exchanged, the rest being retained for the time being;

col. 44). The amount of money circulating in Croatia in 1944 was eight times greater than in 1941, and the increase in prices was several times that in money (Berliner Boersen-Zeitung, July 26, 1944).

4. In 1943, Belgium, Luxembourg, and Holland concluded a monetary agreement fixing the exchange value of their currencies with respect to one another and in relation to the pound sterling (New York Times, September 18, 1944). France also maintains the exchange rate of 50 francs to the dollar. It is believed, however, that the exchange rate of the franc will have to be changed eventually (New York Times, August 2, 1945; October 13, 1945).

5. France has been forced to apply such drastic measures as granting every American soldier there a bonus of 850 francs monthly.

bank accounts were also frozen. Only sums of 3,000 francs per household have been generally made available.[6] Taxes on excess profits ranging up to 100 per cent are contemplated, and stabilization of all salaries and fixed prices has been introduced.[7] Luxembourg has followed the same pattern. The situation there was even more complicated, however, since the German mark had been the sole legal tender during occupation, and only the first RM 100 were exchanged at the German fixed rate of 1 RM for 10 francs, the rest being evaluated at only half this rate.[8] France has also issued new notes with a profit of some 50 billion francs (not exchanged) to the Treasury;[9] mobilization of French capital abroad and heavy taxation of wealth has been put into effect; the first internal loan has already been launched;[1] and a decree, published on January 9, 1945, provided for the confiscation of illicit profits.[2] In Poland the situation was more complicated, since there were in circulation prewar notes, 15 billion zlotys printed by the Germans, those printed by the Provisional Government, and Russian rubles. In order to reduce the amount of money in circulation, the zlotys printed by the German occupation authorities have been declared invalid and individuals permitted to exchange only 500 zlotys at par for other notes; larger amounts were to be exchanged for firms and institutions. No agreement to redeem the balance has been reported.[3] A new Polish National Bank has been established.[4]

6. An official statement of the Belgian National Bank, corrected as of May, 1945, shows that there were 57,300 million francs on free or freed accounts, about 36,000 million on not yet freed, and 58,700 million on frozen accounts (Belgium, June, 1945, p. 213).

7. New York Times, March 30, 1945.

8. La Dernière Heure, Brussels, December 13, 1944.

9. Report of the National City Bank of New York, August, 1945.

1. The total amount of the loan was 164.5 billion francs. Cf. The Economist, January 13, 1945.

2. The war profits were expected to yield 12 billion francs and the levy on wartime increment 100–125 billion in three years (The Economist, April 14, 1945).

According to the statement of the Bank of France for September 27, 1945, the circulation of bank notes is continuing to rise at a rate of more than a thousand million francs a day. Prices are rising despite the Government's effort and sometimes with its approval. To ameliorate the situation somewhat, premiums to producers are envisaged (New York Times, September 16, 1945).

3. New York Times, January 11, 1945. The Economist of January 27, 1945, reports that, according to a statement by the Lublin Minister of Finance, the Germans issued "tens of milliards" of zlotys.

4. The Statist, June 9, 1945. Although the legal rate is five zlotys to the dollar, the Government has introduced a special rate on foreign transac-

In Yugoslavia all eight currencies have had to be exchanged for new dinars at various fixed exchange rates, but nobody has received more than 5,000 new dinars.[5] In Greece a new drachma has been issued at the rate of 50 billion old drachmas for one new, and the exchange rate has been fixed at 600 new drachmas for the pound sterling.[6]

In Italy seizure of property of high Fascist officials, higher direct taxation, increased taxes on wines, food and spirits, launching of a "National fund" loan and the abolition of the subsidy for bread have been undertaken to ease the inflation.[7] The issuance of new notes on the French pattern is contemplated.[8] The Dutch are also calling in their currency for re-issue, the prices of goods on the black market having soared to such heights that the guilder became almost worthless.[9]

The drastic price curbs and rationing have prevented the inflation from showing its full effects. The black market prices and the prices of unrationed goods, however, afford some indication of things to come, provided no substantial increase in available goods is forthcoming soon. In Belgium, for instance, the prices of rationed goods are only 60 per cent higher than in May, 1940, but those for non-rationed articles are so much higher that the over-all cost of living is nearly 200 per cent more than it was before the war.[1] The black market prices in France and other countries are so exorbitant that almost nothing can be purchased by those in the lower income brackets. A case in point is Greece. Soon after the stabilization of the drachma, a break-down in prices forced the Government to devaluate the currency to 2,000 drachmas for the pound sterling.[2] It seems, however, that the adoption of the economic plan of Vice Premier Varvaressos did not prevent "wild inflation"

tions equal to 100 zlotys to the dollar. But even this higher rate is an overvaluation of the purchasing power of the zloty (see New York Times, October 11, 1945).

5. Ibid.
6. Ibid., March 24, 1945.
7. The Economist, February 24, 1945.
8. The Statist, June 30, 1945.
9. New York Herald Tribune, July 25, 1945. See Knickerbocker Weekly, October 1 and 15, 1945, on the measures taken to put Holland's financial house in order.
1. New York Times, August 4, 1945.
2. The Economist, June 9, 1945.

and skyrocketing of prices,[3] the main reason probably being the lack of goods.

The Present Outlook

It is impossible to forcast what the results of the various measures will be. Too drastic restrictions may ultimately hamper reconstruction no less than the absence of deflationary measures. It is clear to all that the only effective solution lies in a rapid increase of available goods, extensive production at the earliest possible moment, and greater savings. Unfortunately, conditions in Europe at the moment are not very favorable to an increase in imports and production. The situation in certain liberated countries is worse now than before liberation, since the Allies do not possess enough shipping to replace the German deliveries, and the liberated countries have been left, not only without productive facilities and stocks,[4] but also, as shown above, without adequate means of transportation even for the limited domestic possibilities.

The amount of French industrial production during December, 1944, and January and February, 1945, in percentages of the monthly averages of 1938, was as follows:[5]

	December, 1944	January, 1945	February, 1945
Coal	70	71	69
Pig Iron (exclusive of Moselle)	10	9	10
Crude Steel (exclusive of Moselle)	16	15	17
Finished Steel	22	17	17
Rubber (consumption)	3	5	..
Paper	7	10	11

The over-all rate of industrial activity, which last spring was estimated at about 30 per cent of the 1938 figure, has apparently

3. ONA, August 29, 1945. Food prices went up in Greece 123 per cent from August 15, 1945, to October 15 ("Greek Tragedy, 1945," The Nation, November 3, 1945).

4. According to a statement by M. Lacoste, French Minister of Industrial Production, there is almost no cement, no glass, no tiles, no gasoline, no tires. (Paris-Presse, November 14, 1944.) French stocks of cotton were put at 300 tons.

5. The Economist, June 2, 1945. Glass production, maintained at 60 per cent of normal during occupation, is now reported to have been halted almost entirely. (Free France, August 15, 1945.)

French production figures for July and August, 1945, were in percentages of 1939 as follows:

Cast iron	21
Steel	26
Finished products	32

(Free France, October 15, 1945).

not risen appreciably since then, mainly because of shortages of coal and raw materials.[6] As a result, France had at the beginning of 1945 an army of 600,000 unemployed,[7] in March, 1945, almost 400,000,[8] and recently 183,000.[9]

Similar conditions prevail in Belgium. Steel works producing 300,000 tons a month before the war produced only 10,000 tons in February, 1945, and expected to reach 57,000 tons in the ensuing months.[1] The production of steel and iron is now about 20 per cent of prewar figures, with 12 blast furnaces working, as against 44 before the war. In May, 1945, only 750,000 tons of coal were produced, as compared with a monthly average of 2,500,000 before the war, while the cotton industry turned out only 17 per cent of the prewar monthly average.[2] In general, Belgian industry was reported to have operated in March, 1945, at not more than a fifth of normal,[3] and in July, 1945, at one-third of its capacity.[4] True, the number of unemployed dropped from 310,000 in January, 1945, to 128,000 in May, 1945, but the reduction was mainly due to the fact that the Allied armies employed some 250,000 Belgian workers, not to an increase in industrial production.[5] Similar conditions seem to prevail in other countries. In Holland, for instance, industry is only one-fourth productive.[6]

Wherever military exigencies permit, the reconstruction of means of communication and bridges, the repair of locomotives, cars, and trucks and their importation from abroad, the importation of goods, raw materials, and other capital goods must all be started at once in order to enable local production to achieve the largest possible activity at the earliest moment. Since sufficient shipping space will hardly be available for some time to come, the problem of priorities for the various countries and as between these goods and the necessary foodstuffs will have to be solved.

6. Report of the National City Bank of New York, August, 1945. According to a statement made by General de Gaulle in Ottawa, French manufacture is still less than fifty per cent of the prewar figure, and in some industries much less. (New York Times, August 30, 1945.)
7. New York Times, January 8, 1945.
8. The Economist, June 2, 1945.
9. Pour la Victoire, August 4, 1945.
1. News from Belgium, May 26, 1945.
2. Belgium, August, 1945.
3. New York Times, April 1, 1945.
4. Ibid., August 4, 1945.
5. Belgium, August, 1945, p. 295.
6. New York Herald Tribune, July 25, 1945.

Obviously, in many cases such importations will be possible only if the suppliers are content to sell the goods on long-range credit or if such credits are granted for use elsewhere; in certain instances, restriction of domestic consumption or use of these commodities in the exporting countries will be necessary, and the lowering of living standards for a given period inevitable. Since the need will be very great and the supply limited, an international organization will have to be set up to direct the flow and use of goods and credits and to regulate prices and other conditions. Every government will of necessity be forced to regulate, at least for a time, all economic activity in its devastated areas, to eliminate obstacles, mobilize all available resources, and foster investments at the expense of consumption.

Even if economic conditions improve and all the necessary measures are taken, the task of reconstruction will certainly not be an easy one. In France, the average rate of savings in 1927–30 was 11.2 per cent of the national income.[7] In Holland, the annual savings in 1925–30 averaged 1,052 million florins; the average national income being 5,590 million florins,[8] savings were at the rate of 17.5 per cent. These figures for the most thrifty nations of Europe would constitute from two to three per cent of the national wealth.[9] In times of distress and reduced living standards, the rate of savings out of the national income can be raised, but only if this income is high enough. Consequently, even under the best possible conditions it may take decades to make up the losses caused by the present war. Yet the fact that so many people have been underfed and underclothed for an extended period and are now without shelter will necessitate for some time to come greater production of consumer goods than would seem proper in view of the urgent

7. Marschark and Lederer, Kapitalbildung, London, 1936.

8. According to the annual figures by Lindahl quoted in Colin Clark, The Conditions of Economic Progress, London, 1940, p. 175.

9. These figures are comparatively very high, since, according to the statistics on national wealth in the United States compiled by the National Industrial Conference Board for the years 1919–30 on the basis of the 1913 price level (World Almanac, 1934, p. 302), the average annual increase in national wealth was about two per cent. The same figure is given for the prosperous Germany of the period preceding the First World War. (See E. Fuhrmann, Das Volksvermoegen und Volkseinkommen des Koenigreichs Sachsen, Leipzig, 1914, and A. Steinmann-Bucher, Das reiche Deutschland, Berlin, 1914, p. 61.) German savings after the First World War were estimated as aggregating about 10 per cent of the national income. ("Wie gross ist das Volkseinkommen?" Das Reich, February 15, 1942.)

reconstruction needs. The position of the formerly occupied countries is in certain respects worse than that of some of the actual belligerents. The latter have production in full swing and their transportation system intact; and while reconversion from war goods to peace goods will certainly entail temporary dislocations in production, it will do so on a much smaller scale in their case than in that of the occupied countries, where production will have to start practically from scratch under great hardship, and will be forced, not only to adapt itself to the new techniques developed during the war, but also to revert to the "natural" requirements and needs.

Reconstruction in countries formerly under Axis domination will undoubtedly be retarded by several additional factors. In the first place, it takes time to repatriate the hundreds of thousands held in Germany under various "titles." These persons will be in very bad condition physically and morally, having been deprived of their economic positions, thrown out of their habitual employment, and rendered destitute. They will require special treatment and care, food and clothing, which is bound to divert part of the national effort to the production of consumer goods. In the second place, the wholesale deprivation of certain groups (Jews everywhere, Frenchmen in Alsace, Poles in the annexed regions, political foes in the Southeast) of their properties will present a major problem, since the first condition for economic reconstruction is stable property rights. The confiscated property was in part transferred to new owners, who will have to retransfer it to the legal proprietors or their heirs; the property rights of those slain by the Germans and their satellites or those who died during or after deportation will also have to be settled, since the illegitimate possessors of the goods cannot be allowed to retain them. The deported owners of agricultural and other holdings will have to be brought back and helped to resume their vocations. Many professionals were likewise forced out of their professions; they, too, will require help in reëstablishing themselves. Persons who sustained damage at the hands of the occupying power or through acts of war must be compensated; this will strain the resources of the state and other public bodies to the utmost and render readjustment more difficult. Special measures to remedy these consequences of the war and occupation will have to be adopted and enforced with the greatest speed possible, since uncertainties concerning the ownership of a

large part of the national wealth will hamper economic activities far beyond the actual number of persons directly involved.

II. Reparations

The devastated countries of Europe naturally expect some relief through the restitution of stolen property and the payment of reparations. At first it was generally assumed, at least in the United States and Great Britain, that the postwar settlement would not involve a reparations problem,[1] except for some kind of restitution.[2] This assumption was based largely on the alleged mistakes made after the last war,[3] and even now there are some opponents of reparations of any kind, especially in the labor movement;[4] but by and large it had become generally accepted before the end of the war that Germany and her allies would be forced to pay reparations to their victims. Financial reparations were regarded as excluded,[5] reparations in goods and services generally accepted, those in labor advocated by some [6] but rejected by others.[7]

1. See "Restitution," The Economist, November 6, 1943.

2. To mention only a few, see Herbert Hoover and Hugh Gibson, The Problem of a Lasting Peace, New York, 1942, p. 247; C. I. Hambro, How to Win the Peace, New York, 1942, p. 368; P. Lamartin Yate, "The Future of Germany," Fabian Quarterly, Autumn, 1941; James B. Reston, Prelude to Victory, New York, 1942, p. 46; Oswald Dutch, Economic Peace Aims, London, 1941, pp. 240–241; E. H. Carr, Conditions of Peace, London, 1942, pp. 234, 271.

3. See, for example, "Reactions to a Defeated Germany," The Fortnightly, December, 1940; J. B. Condliffe, Agenda for a Postwar World, New York, 1942, pp. 162ff; Jacob Viner, "German Reparations Once More," Foreign Affairs, July, 1943, p. 659.

4. See, for example, The Trade Union World, September, 1944, and the postwar program adopted by the United Automobile Workers in June, 1944. (Brewer, loc. cit.)

5. See the Armistice Agreements with Bulgaria, Finland, Hungary and Rumania; "What Should Germany Pay?" Fortune, February, 1944; Eugene Varga, "Indemnification of Damage by Hitler Germany and Her Accomplices," War and the Working Class, No. 10, Moscow, October 15, 1943.

6. The Russians seemed to rely largely on this method of payment. See Varga, loc. cit.; New York Times, September 2 and December 1, 1943, and February 2 and 5, 1945.

Britain's Trade Union Congress, 1944, was reported to have decided that German forced labor should be used for the rebuilding of Nazi devastated Europe. (Time, October 30, 1944.)

7. See the Christian Science Monitor, March 14, 1944; New York Times, November 26, 1944, and February 5, 1945. For examples of partial rejection, see H. N. Brailsford, Making Germany Pay? London, 1944, and Our Settlement with Germany, New York, 1944; Karl Keith, "The Permanent Pacifi-

The Crimea Conference produced, for the first time, an official statement by the "Big Three" on this problem. It was declared to be "an inflexible purpose" of the Allies to "exact reparation in kind for the destruction wrought by the Germans." The Declaration amplified this statement by adding that Germany would be "obliged to make compensation for this damage in kind to the greatest possible extent." A Reparations Commission was established and instructed to consider the question of the extent and methods of compensating the damage caused by Germany to the Allied countries. The Declaration used the term "in kind," without indicating whether it refers to deliveries of goods alone or to the transplantation of German factories and machinery and to reparations in labor as well. James F. Byrnes, then Director of War Mobilization and Reconversion, who took part in the Yalta Conference, clarified this point to some extent by declaring that "the use of German manpower in the rebuilding process was discussed by the Big Three, perhaps even to the eventual use in Europe of German prisoners of war."[8] Nothing was said on the question of restitution of stolen goods still available in Germany and compensation by similar commodities for non-returnable equipment and goods, despite the fact that the French were reported to have officially declared that they would demand full restitution of, and compensation in kind for, all rolling stock, locomotives, barges and other shipping taken away from them or used by the Germans,[9] and that similar demands had been made by Czechoslovakia and the Netherlands.[1]

The Potsdam Agreement

The Potsdam Agreement has not clarified the difficulties involved in the problem of restitution and reparations. Its main accomplishment consists in a clear-cut division of the over-all

cation of Germany," World Economics, July–October, 1943; The Problem of Germany, The Royal Institute of International Affairs, London, 1943; Hiram Motherwell, "The Three R's of Postwar Europe," Harper's Magazine, December, 1943; The American Labor Committee on International Affairs, Studies on Postwar Reconstruction, No. 4, by Hans Neisser et al.; Sidney B. Fay, "When will G. I. Joe Come Home?" Current History, November, 1944; New York Times, February 10, 11 and 17, 1945.

8. The New York Herald Tribune, February 14, 1945. Cf. also the statement made by President Roosevelt on March 2, 1945. (New York Times, March 3, 1945.)

9. New York Times, November 21, 1944.

1. Ibid., March 20, 1945.

problem into two parts: Russia and Poland, on the one side, and the rest of the Allies, on the other. Russia has obviously received a free hand in exacting reparations from German territories under her occupation and German assets in Bulgaria, Finland, Hungary, Rumania and Eastern Austria; Great Britain and the United States have been left to decide what reparations shall be taken from other German territories and German assets in other countries. An exception from this rule is the delivery of a certain specified amount of surplus capital equipment from the Western zones to Russia.

The Agreement does not say whether the term "removals" refers to capital equipment only or to other goods at the pleasure of the victors, and whether the question of labor reparations was considered or decided upon. Paragraph 19 of the part "Germany," although not very clearly conceived, apparently means that reparations, other than "surplus" equipment, will be made only from such goods as remain after payment for imports and setting aside the resources necessary to enable the German people to subsist without outside assistance.[2] President Truman disclosed in his Report to the People on August 9, 1945, that no fixed amount of reparations was accepted at Potsdam, but that it was decided that Russia and Poland would receive approximately one-half of the total exactions. Speaking of reparations, he mentioned "property" as their object, thus presumably indicating that he did not refer to capital goods only. The Russo-Polish agreement on reparations[3] seems to support this conclusion, since it speaks simply of "reparation deliveries from the Soviet zone of occupation." All in all, the question of what, how, and when the Western victims of German aggression will receive restitution and reparation must be considered as far from decided. It is not known how much the United States and Great Britain will demand for themselves, nor what their shares will be. The same applies to the question of assigning German laborers to nations desiring to use them in rebuilding the devastated areas, although a high American official who participated in the Potsdam Conference is reported to have disclosed a sanction by the "Big Three" for the use of German labor

2. The New York Herald Tribune, August 30, 1945, carried a report from Paris that certain materials (coal, lumber, potassium) were already being delivered from Germany to France on account of reparations. (Apparently after the French had refused to pay for them. Ibid., August 17, 1945.)

3. New York Times, August 18, 1945.

by the Russians.[4] Other nations were also reported to be planning the use of such labor. The French Ministry of Labor, for example, is said to want 1,750,000 German prisoners of war for reconstruction work. These prisoners will obtain small pay only, the French Treasury receiving the difference between normal wages and those actually paid to the prisoners.[5] Pursuant to Pauley's statement of August 30, 1945,[6] fifteen nations were invited to present their reparations bills. A conference of these nations was called for November 9, 1945, to fix the share of each participant in the total amount of reparations.

Even less progress seems to have been made on the question of what will be done with properties from former occupied countries shipped to Germany during the occupation. The nations concerned are in dire need of means of transport and any other equipment and goods they were deprived of in this way, but nothing seems to have been undertaken to restore to them at least the goods available *in natura*. Particularly outspoken in this respect are the Dutch. A report by a special government commission charges that great amounts of Netherlands machinery, railway cars, locomotives and livestock are still in Germany, but that the Allies have made no effort to return them and have even refused to permit Dutch officials to locate them.[7] In fact, according to their charges, this equipment helps German recovery at the expense of Holland, as well as other nations.[8] The delay in solving the restitution and reparations problem can be explained to some extent by the difficulties involved in a condominium, the lack of precise data and the preoccupation of the Allied Military Government with local (German) problems, as well as by the natural desire of all authorities not to complicate their own tasks.[9] It is evident, however, that

4. New York Herald Tribune, August 8, 1945.
5. Pour la Victoire, August 11, 1945.
6. The Department of State Bulletin, September 2, 1945, pp. 308–309.
7. New York Times, July 28, 1945.
8. New York Herald Tribune, August 12, 1945.

Netherlands News, September 1, 1945, reported that the British and American missions in Holland had promised Holland help in ameliorating the situation. So far only stolen art treasures and some special machinery seem to have been ordered returned (ONA, September 1, 1945, and New York Times, September 20, 1945).

9. An indication of how American Military Government officials feel about it may be found in the words of General Clay: "Our difficulties will increase when the reparations program gets under way, and the Germans

as time passes it will become more and more difficult to uncover the loot and to remove it from the present location. Besides, the goods are particularly needed at this time and cannot be acquired elsewhere. The consequences of delay may well be a great retardation in the economic recovery of the nations involved.

The Outlook for Reparations

The amount of surplus industrial equipment to be used for reparations is as yet unknown. The total amount of usable equipment in Germany has not yet been made public, nor has it been announced what will finally be considered "excess" capital goods. There are certain data on German foreign assets, but the problem is complicated by counterclaims of the countries where these assets are located,[1] by uncertainty as to how the various nations will use them, and by changes in the value of currency According to the Potsdam Agreement, the Control Council is directed to exercise control and the power of disposition over German-owned external assets not already under the control of United Nations which have taken part in the war against Germany; but this decision is not binding upon the sovereign nations harboring German assets,[2] and it cannot be predicted how much of these assets will finally be acquired for reparations purposes The assets within the former occupied countries are not of great extent. Reparations in finished goods and raw materials, even if admitted in principle, cannot be

begin to see their capital assets removed" (New York Times, August 28, 1945)

1. The Foreign Economic Administration estimated German foreign assets in Switzerland at $300 million but admitted that there are $445 million Swiss investments in Germany and that the German clearing debt to Switzerland amounts to $232.1 million However, in evaluating these figures it must be considered that investments and debts are probably made in different currencies, and that the reichsmark will be greatly inflated when the account of credit and debit is made

Mr Pauley is reported to have stated that probably less than one billion dollars in United States value will be available for reparations. (New York Times, August 16, 1945)

2. Reports from Colombia and Guatemala speak of the expropriation of German assets there for local needs. (New York Times, August 11 and 13, 1945.)

The Allied Control Council adopted on October 30, 1945, in accordance with the Potsdam Agreement, a law providing for the marshalling and vesting of German foreign assets. It is reported, however, that assets in neutral countries might be used to pay for imports to Germany rather than reparations. (New York Herald Tribune, November 5, 1945.)

high under the conditions prevailing, and will fall very short of previous expectations.

The Russians[3] set the total reparations claims of all the belligerent Allied nations at 800–1,000 billion gold rubles, but did not expect full compensation. They assumed that approximately the same annual sum could be applied to the payment of reparations as was spent on the average for armaments in 1933–39, namely 15 billion marks a year. Others would take as a measure of Germany's ability to pay reparations her annual expenditures for military purposes during the war — some 20 billion dollars a year,[4] or set the reparations in goods at one-third of her industrial output.[5] "Specialists of the United Nations" seemed to advocate that half of the increase in German "productive capacity" (i.e. production) since 1933 be applied to the production of goods for the payment of reparations in kind.[6]

In these calculations several crucial factors have been overlooked. First, the extent of production. As everywhere else, industrial production in Germany varies with the economic conjuncture. In percentages of 1928 it was:[7]

1926	1927	1928	1929	1930	1931	1931	1933
78.7	101.2	100.0	100.9	88.9	72.8	58.7	65.5

The net value of Germany's industrial output in 1928 was about 34 billion marks; in 1929, 33 billions; in 1930, 30 billions; in 1931, 22 billions; in 1932, 16–17 billions.[8] Hence the Allies would have to be able to maintain high production figures if the "surplus" over a certain, even quite low, standard is to be sufficiently high. Second, it is assumed that Russia, Poland and possibly other

3. Varga, loc. cit.

4. According to George Creel, "What Will We Do with Germany?" Collier's, November 25, 1944, this was the view of competent officials of the United States Government. Apparently, the expenditures of the fiscal year 1939–40, amounting to 52.6 billion marks, are meant here. The expenditures of the following fiscal years (without exactions from the occupied countries) were 71.9 billion, 88.1 billion, and 97.6 billion marks, respectively. (Vnyeshnyaya Torgovlya, 1944, No. 6, p. 12.) It must be borne in mind that the occupied countries contributed a fourth of this amount, and that millions of foreign slaves were put to work to achieve this goal.

5. Walter Lippman, New York Herald Tribune, April 23, 1943.

6. New York Times, February 2, 1945. It is not clear whether this increase is considered equivalent to the expenditures for war preparations, as is stated in the dispatch.

7. Statistisches Jahrbuch, 1935, p. 50*; 1938, p. 55*.

8. Vierteljahreshefte zur Konjunkturforschung, 1932, fasc. 2A, p. 98.

nations will insist on the transfer of large numbers of skilled German workers to reconstruct destroyed homes, factories, bridges, etc. This transfer would greatly reduce German industrial production, especially in view of the losses in life and limb which Germany suffered during the war, unless they are offset by an effective distribution of manpower or by transfers of Germans living abroad to Germany. Thirdly, all these calculations were based on the productive capacity of Germany as of 1939, or even as it was in 1943 or in 1944. Since quite extensive regions in the East have been lost to Russia and Poland, the productive capacity of the truncated country must have decreased. In addition, the results of the destruction from the air, the scorched-earth policy, the devastation wrought by land warfare, the millions of homeless people,[9] the wear-and-tear during the war must also be taken into consideration.[1] But most important of all is the curtailment of German industrial activity through the announced policy of the Allies as embodied in the Potsdam Agreement, as well as the necessity of maintaining a certain level of subsistence for the Germans under such conditions and to pay occupation costs.

We must also consider Germany's prewar exports. Before this war these aggregated (in million marks):

	Nominal[2]	On the Basis of Average Prices in 1928[3]
1928	12,301	12,276
1929	13,483	13,669
1930	12,036	12,957
1931	9,599	11,771
1932	5,739	8,123
1933	4,871	7,627

9. Their number was estimated some time ago at 23,000,000. (New York Times, February 5, 1945.)

1. For these reasons, some students of the problem did not believe that Germany would be able to deliver sizable amounts of reparation goods before several years after the cessation of hostilities. Sturmthal, loc. cit.; Heinz Soffner, "Winning the Peace with Germany," Survey Graphic, July, 1943; Harry Lewis Braham, Permanent Peace for Europe, Spring Lake, 1943. For contrary views see Grant S. McClellan, "Financial Challenge of the Postwar Period," Foreign Policy Reports, September 1, 1944.

2. Statistisches Jahrbuch, 1929, p. 186; 1938, p. 628. Until 1933, one dollar was equal to approximately 4 marks; after that year, to about 2.5 marks. The export figures for the following years (with Austria included) were (in billion marks): 1938, 5.6; 1939, 5.2; 1940, 4.9; 1941, 6.8; 1942, 7.6; 1943, 8.6. Cf. Berliner Boersen-Zeitung, July 7, 1944.

3. Statistisches Jahrbuch, 1932, p. 172; 1938, pp. 257 and 629. The difference for 1928 is due to corrections made subsequently.

	Nominal[3]	On the Basis of Average Prices in 1928[3]
1934	4,167	6,810
1935	4,270	7,336
1936	4,768	8,092
1937	5,911	9,360

In "normal" years German industrial exports represented in value about 20 per cent of the total industrial production.[4] From the figures given above it is evident that, with an intact industry running full blast, as was the case in 1929, reparation deliveries as envisaged by Varga would amount to almost 50 per cent of the total net industrial output, but that a figure like 20 billion dollars (equal to 50 billion marks) would exceed by far the total net industrial production in the best peace-time years. Amounts of seven to eight billion marks, mentioned by the United Nations experts, may average slightly less than one-third of the industrial output of Germany and be roughly equal to total exports after 1932.

German exports in finished goods[5] depended to a large extent on imports. It was assumed that, in the interval between the two World Wars, 11–12 per cent of the value of every exported article consisted of imported goods.[6] Hence, in order to enable Germany to supply enough reparation goods, especially industrial products, the necessary raw materials must either be bought by her through free exports — i.e. sufficient exports allocated — or be delivered by the nations receiving reparations, unless their demands are restricted to goods made of German raw materials exclusively.

III. The Economic Disarmament of Germany

There can be no doubt that the first and most essential condition of economic reconstruction is political security and freedom from aggression. Hence the problem of rendering Germany incapable of launching, fifteen or twenty years hence, another war against her neighbors (who do not seem to believe in German reëducation)[7] is of the utmost importance in any scheme of eco-

4. The actual figures were as follows: 1925, 20.3; 1926, 25.6; 1927, 20.8; 1928, 21.0; 1929, 23.7; 1930, 25.8; 1931, 28.3; 1932, 23.6; 1933, 18.2; 1934, 12.1. (Vierteljahreshefte zur Konjunkturforschung, Sonderheft, 41, p. 32.)

5. They represent in value 72.9 per cent of the total exports in 1930; 76.9 in 1931; 78.2 in 1932, and 77.7 in 1933. (Statistisches Jahrbuch, 1933, p. 189; 1935, p. 205.)

6. Vierteljahreshefte zur Konjunkturforschung, Sonderheft 41, p. 56.

7. T. E. Utley, "French Views on the German Problem," International Affairs, April, 1944. For a review of the plans advanced, see, among others,

nomic rehabilitation in Europe. Some see a solution to this problem in reparations, which would curb Germany's economic recovery and the growth of her population,[8] but most students of the problem look to other solutions and remedies. Political control failed after the First World War and may, in their opinion, fail this time, too.[9] The scheme for a trusteeship over German industries to insure their complete conversion to, and use for, peaceful work[1] depends on long and smooth coöperation of the Allies in the supervision of Germany; it is felt that strict control can be maintained only so long as Germany is actually occupied and policed by the victors; even in regard to the lesser problem — reparations — it is an accepted assumption that they can be exacted only so long as the occupation by the Allies endures.[2] Some believe that the amputation of Germany in favor of Russia, Poland, France (and possibly Holland, as compensation for flooded land), plus the possible internationalization and occupation[3] of the Rhineland, Ruhr, and Westphalian regions, will suffice. However, this solution seems to many observers to be complicated by the problem of effective control for a long period and the question of removing millions of Germans living in the ceded areas and Czechoslovakia to the already densely populated remainder of Germany.[4]

Harold G. Moulton and Louis Marlio, The Control of Germany and Japan. The Brookings Institution, Washington, 1944; "Treatment of Germany After the War," Public Affairs Bulletin, No. 28B, Library of Congress, Legislative Reference Service, Washington, 1944; Winifred N. Handsel, "What Kind of Peace with Germany: Terms Proposed by Liberated Nations of Europe," Foreign Policy Reports, November 15, 1944.

8. See Institute of International Finance, op. cit.

9. As Leon Henderson has put it, the question comes down to this: whether you can actually control the war-making potential of a nation. A victorious nation has never before tried to impose complete economic control. New York Times, January 7, 1945.

1. A. Loudon, "Some Aspects of War and Post-War Problems," Netherlands News Digest, April 15, 1943; Walter Lippmann, New York Herald Tribune, April 22, 1943; N. P. L. Steenberghe, "Future Netherlands Economic Relations with Europe," Knickerbocker Weekly, September 20, 1943. The other solutions, such as the breaking up of Germany's autarchy ("The United States in a New World: IV. Relations with Europe," Part V, Fortune, April, 1943), control of her foreign trade, etc. cannot even be mentioned here for lack of space.

2. See "What Should Germany Pay?" Fortune, February, 1944; "Policy for Germany," The Economist, March 4, 1944; Viner, loc. cit.

3. This thesis is most strongly advocated by the French. See, for example, New York Times, January 24, 1945; February 6, 1945; March 2, 1945; August 6, 1945; September 4 and 10, 1945; New York Herald-Tribune, October 13 and 17, 1945.

4. This transfer has actually been sanctioned by the Potsdam Agreement.

For these and other reasons, such as the possibility of shorter occupation than anticipated,[5] there has always been a school of thought which advocates industrial or economic disarmament of Germany as the sole feasible and effective solution of the German problem.[6] The Dutch, Czechs, Belgians, and Poles are said to have discussed for a long time ways and means of curtailing Germany's industrial activity,[7] and this opinion has found support also among the French and others.[8] In this country, the Kilgore Subcommittee of the Senate has come out very strongly for a drastic plan in its report on Cartels and National Security:

> A real disarmament program [for Germany] requires not only the dismantling of all direct munitions industries, but also the dismantling and removal to the devastated areas of Europe of the primary indirect munitions industries, including metallurgical and chemical industries.[9]

5. A report from Frankfort has it that a three-year occupation of Germany was discussed by the "Big Three" and that this period may be shortened by as much as six months. (New York Times, August 20, 1945.) Difficulties in supplies for Germans may well account for such decisions.

6. A staunch proponent of economic disarmament is Paul Einzig, who has outlined his detailed program in three publications: Can We Win the Peace? London, 1942; Appeasement Before, During and After the War, London, 1942; "A Plan for Germany's Economic Disarmament," Economic Journal, June-September, 1942. Cf. also Lionel Gelber, Peace by Power, New York, 1942, p. 38; "The Future of Germany," Planning, a Broadsheet by PEP, No. 172, London, 1941, p. 12; Henry Morgenthau, Jr., Germany is Our Problem, New York, 1945.

7. "UNRRA Decides," The Economist, December 4, 1943; cf. also ibid., July 8, 1944, p. 38.

8. Henri Peyre, "The French Situation," Political Science Quarterly, September, 1944. Cf. the report from Paris on the problem of reparations, New York Times, March 21, 1945.

Norwegian experts believed that "it may seem appropriate to liquidate a certain part of German heavy industry and machine-tool industry" ("Norwegian Views on the German Problems," International Affairs, January, 1945). See also C. M. Cornell, "Some Dutch and Belgian Views on the German Problem," International Affairs, July, 1944.

9. Cartels and National Security, Seventy-Eighth Congress, Second Session, Senate. Subcommittee Report No. 4; Report from the Subcommittee on War Mobilization to the Committee on Military Affairs, Washington, 1944, p. 8. It is interesting to note that, according to the report of George Creel on the plans of the State and War Departments and the Foreign Economic Administration, the United States Government did not approve of deindustrializing Germany but believed, on the contrary, that the maximum production is imperative. (Collier's, November 25, 1944, p. 58.) However, a few weeks earlier it was reported from Washington that officials of the Administration seemed to favor small reparations which would permit keeping Germany weak. New York Times, September 23, 1944.

And as long ago as last fall President Roosevelt instructed Mr. Crowley, Foreign Economic Administrator, to carry forward "studies from the economic standpoint of what should be done to limit the power and capacity of Germany to make war in the future."[1]

Objections to Deindustrialization

Many objections to the economic disarmament of Germany have been raised. One is that decreases in productive capacities are of a temporary nature only. As a matter of fact, however, it takes decades to build up a high industrial capacity. In the case of Germany the comparatively slow process of building up the personnel of her heavy industries is shown by the figures for the number of employed workers[2] during the 50-year period 1875–1925:

1875	1895	1907	1925
123,170	138,126	200,240	270,211

This fact is of great significance, since it proves that, when deindustrialized, Germany may be unable, even after the restrictions are lifted, to build up a new war machine quickly.

Some contend that crippling German industries entails economic injury, not only to the Germans, but also to the rest of the world, and especially those countries which in normal times found Germany an important export market or source of imports.[3] These authors, however, seem not to take into account the fact that these alleged advantages are more than counterbalanced by the destruction and losses suffered by Germany's neighbors during the last two wars. In addition to the cost of warfare and the amount of destruction and loot, indirect costs — personal damage, broken lives and careers, and the cost of maintaining huge armies during the intervals between wars — must be considered. It must, furthermore, be borne in mind that the neighboring nations will acquire, through transfer of at least a part of German industries, industrial facilities not possessed before.

1. Statement submitted by Leo T. Crowley, Foreign Economic Administrator, before the Subcommittee on War Mobilization of the Senate Military Affairs Committee on the subject, "Germany's Economic Base for Aggression," June 26, 1945.

2. Statistik des Deutschen Reiches, Bd. 418, p. 17.

3. For instance, The Problem of Germany, The Royal Institute of International Affairs, London, 1943; "Germany in Peace," New Republic, October 30, 1944; Jacob Viner, "The Treatment of Germany," Foreign Affairs, July, 1945.

A redistribution of heavy and kindred industrial activities in Europe would generally equalize the economic structure of the various European countries and increase their industrial production, thus making up for possible losses through diminished German imports, and rendering many of them less dependent on exports (food and raw materials) to and imports (industrial products) from Germany, which in itself would greatly reduce the danger of future conflicts and the necessity of siding with Germany in that case. Should this goal be attained, a gradual reconstruction of some German industry might prove possible and unobjectionable.

Some believe that the damage inflicted upon German industry during and after the war will suffice to eliminate her as industrial power for decades.[4] Others, however, are more impressed by the possibility of a rapid recovery of German industry, once the opportunity for rebuilding it is given.[5] In fact, the experience of this war has shown that air power is unable to decrease the industrial activities of warring nations appreciably, and the potential left intact in Germany would probably suffice, under favorable conditions, to repair the damage in a comparatively short period of time.

Another objection is that iron and steel industries are so closely connected with coal fields that there is hardly any prospect of developing them in countries which lack an adequate coal supply. The main reason for the development of heavy industries in regions rich in coal (Great Britain, Germany, Belgium, etc.) rather than in iron ore (Sweden,[6] Norway, Italy) is that it pays better to transport iron ore to coal than vice versa. But this factor may be overestimated. Even before the First World War, technological advances in the use of coke resulted in an exodus of the iron industry

4. See, for instance, the message of twelve American generals back from the European war, New York Times, June 25, 1945.

5. Cf. especially Elimination of German Resources for War (Hearing before a subcommittee of the Committee on Military Affairs, United States Senate, 79th Congress, First Session), Washington, 1945, containing a vast amount of data and other material; and an eyewitness account by a correspondent of the North American Newspaper Alliance in the New York Times, June 13, 1945. According to a statement by Colonel Boyd, chief of the industry division in the office of the American Military Government, some 75 per cent of Germany's industry is intact or in a reparable condition. (New York Times, October 11, 1945).

6. In 1938, Sweden produced 13.9 million tons of iron ore and exported 12.7 millions; the total production of pig iron was only 667,909 tons. Cf. The Statesman's Yearbook, 1940, p. 1316.

from the coal-rich Ruhr Basin to Lorraine, rich in iron ore; only reluctance to losing considerable investments and special profitable freight rates checked this trend.[7] There is little doubt, especially if, by international agreements, special privileges were granted for the transportation of coal to countries with iron ore deposits or to places where iron ore can be conveniently brought, that new heavy and allied industries could be built up there.[8] It is sometimes asserted that heavy and related industries can thrive only in countries with sufficiently large domestic markets. The experience of Luxembourg and Belgium would seem to militate against this assumption. Moreover, markets can be enlarged by means of customs unions and similar devices.

The Crimea and Potsdam Decisions

The Crimea "Charter" did not shed much light on this problem. It stated only that, in addition to purely military disarmament, it was agreed to "eliminate or control all German industry that could be used for military production." Since almost every industry works during war for that purpose, the definition contained in the Crimea Declaration did not indicate to what extent the Allies were willing to destroy German industrial might.

The Potsdam Agreement seems to have accepted the view that, in the words of President Truman (in his report to the people, August 9, 1945), German economic power to make war is to be eliminated. To this end the Agreement proposes to carry out a program of industrial disarmament by the methods described there, including decentralization of the German economy,[9] development of agriculture and peaceful industries, control of the production of metals, chemicals, machinery and other items that are necessary

7. Guenther v. Geldern-Crispendorf, Die deutschen Industriegebiete. Ihr Werden und ihre Struktur, Karlsruhe, 1933, p. 101.

8. Italy's coal output is only two to three per cent of her yearly needs. Despite this handicap, the steel output amounted to 2.25 million tons in 1938 and was expected to increase to four millions in 1940. (The Economist, January 20 and May 18, 1940.) The Government of Portugal has made public plans for the industrialization of the country, involving the development of heavy industries (Berliner Boersen-Zeitung, August 7, 1944.) Similar plans are attributed to Spain (ibid., August 4, 1944).

9. The Russians were reported to have stripped a considerable number of German plants of their equipment and to have started a decentralization program in their zone of occupation well in advance of the Potsdam Agreement. (New York Times, July 5, 8, 19 and 21, 1945, and New York Herald Tribune, July 18, 1945.) This was confirmed by Mr. Pauley. (New York Times, August 31, 1945.)

for a war economy and its restriction to a level essential to maintain in Germany average living standards not exceeding the average of the standards of living in European countries, excluding the United Kingdom and Russia. The Agreement sees in reparations one of the means of deindustrialization by removing surplus industrial equipment, and proposes to destroy such excess capital goods as will not be removed in this way. The terms of the Agreement remain to be clarified by action, especially by actual determination of what is useful for war economy, what is necessary to maintain the prescribed living standard, how high it should be, and what is surplus equipment. Under the conditions now prevailing in Europe, and in view of expected differences of opinion among the Allies on these definitions, this may take longer than the six months prescribed in the Agreement.

A recent plan devised by officials of the American Military Government calls for the following points: chemical and allied industries may be cut to cover only minimum domestic requirements, except for synthetic textile fibres (to avoid importing large quantities of textile raw materials); the synthetic petroleum industry is to be available for reparations; production of finished steel is to be limited to some 50 per cent of the prewar normal use, and all facilities above those necessary to maintain this level made available for reparations; fabricated metal goods, electrical and transport equipment is to be limited to levels consistent with domestic supplies of steel; facilities for producing locomotives (except for minimum domestic requirements), heavy steel forgings and machine tools, large central stations, heavy tractors, trucks and passenger cars, high-pressure and high-temperature equipment essential to the manufacture of synthetic materials and some others are to be completely removed.[1] It remains to be seen, however, whether this plan will meet with the approval of the higher authorities.[2]

The German War Potential

The sinews of modern war are two basic materials — coal and steel, coal being the basis of the chemical industry and an

1. New York Times, August 29, 1945.

2. See, *inter alia*, the controversy about the "Hoover report" submitted to the economic directorate of the Allied Council and dealing with the problem of disarmament, reparations and mimimum German standards of living. (New York Times, October 8, 1945 and New York Herald-Tribune, October 11 and November 4, 1945.)

essential means in iron and steel production. Hence the war potential of a country may be roughly calculated as proportional to its coal and steel output.[3] The engineering industries play a tremendous rôle in this war of machines, and will in all probability, together with the chemical and synthetic goods industries, play an even greater part in future wars and war potentials. New developments, such as new kinds of planes, radar, atomic bombs, will put ever growing stress on these industries. The engineering industries are based almost exclusively on steel output, and the use of substitutes has not as yet diminished the importance of steel for war.[4] A comparison of the output of iron, steel and coal in Germany, on the one hand, and the rest of Europe, on the other, shortly before the war is given in Table II.

The preponderance of Germany in iron and steel production becomes clearer when we consider that Poland, with a population about one-half that of Germany, produced in 1938 approximately five per cent as much pig iron as Germany and about seven per cent as much steel; Rumania, with a population slightly less than 30 per cent of Germany's, 0.7 per cent as much iron and one per cent steel; Spain, 2.5 per cent and two per cent, respectively; Yugoslavia, 0.3 per cent iron and hardly any steel; and Italy only five per cent and 10 per cent, respectively. But the contention that Germany produced 60 per cent of Europe's coal [5] is not wholly correct, though it may be true of continental Europe west of the USSR. The same applies to the assumption that Germany produced 50 per cent of Europe's iron and steel and even larger amounts of its aluminum.

3. The statement of Ferdinand Friedensburg (Kohle und Eisen im Weltkriege und in den Friedensvertraegen, Munich and Berlin, 1934, p. 9) that no nation dependent for its coal and iron on foreign countries will in the future be able to wage war independently against any great power, is no doubt true at the present moment, as is the observation made by Fritz Sternberg (Germany and a Lightning War, London, 1938, p. 153) that, throughout the First World War, "military superiority was seen hand in hand with superiority in the production of iron and steel."

4. According to Steel Facts, August, 1943, each man in the United States Army today requires 1,500 lbs. more steel annually than in the last war. The earlier contention that, "unlike the war of 1914–18, this is not a steel war" (R. W. B. Clark, Britain's Blockade, Oxford Pamphlets on World Affairs, London, 1941, p. 16) was based on the first period of the present conflict, the period of the so-called "phony war."

5. New York Times, February 18, 1945; H. J. Paton, "Truncation as a Means of Preventing German Aggression," International Affairs, April, 1945.

TABLE II

OUTPUT OF IRON, STEEL, ROLLING MILL PRODUCTS, COAL, AND ALUMINUM IN 1937 AND 1938

(Thousands of Tons)

Commodity		Europe	Germany[a]	Great Britain	Russia	The Rest of Europe
Pig Iron	1937	58,950	16,349	8,629	14,521	19,800
	1938	55,842	18,655	6,872	15,000	15,300
Steel Ingots	1937	73,910	20,037	13,455	17,824	23,100
	1938	69,653	22,991	10,561	18,200	16,800
Rolling Mill Products	1937	50,813	14,118	9,928	12,996	......
	1938	......	......	......	......	......
Coal	1937	......	225,000[b]	224,269	127,000	170,000[b]
	1938	......	186,406[c]	231,876	132,000	......
Aluminum	1937	294.3	127.2	19.4	45.0	......

The figures are computed from data on the various countries contained in Wirschaft und Statistik, 1939, pp 55 and 172; 1940, p 97, Statistisches Jahrbuch, 1938, p 75 and 60 ff.; American Iron and Steel Institute, Annual Statistical Report, 1941, p 107ff If some of the figures do not wholly correspond, the reason lies in the different sources and the divergencies between European and American tons

a Including Austria.

b German lignite is reckoned as equal to $\frac{2}{9}$ of coal per weight unit; Bohemian lignite, as $\frac{2}{3}$. Cf. Friedensburg, op cit, p 63, footnote 1.

c Without lignite.

In consequence of her unique position with regard to these basic productions, Germany's war potential as a whole was considered by competent authorities to be roughly equal to that of all other continental European countries combined, exclusive of the USSR; and the capacity of her metallurgical, engineering, and chemical industries was believed to be almost one-half that of these countries.[6] Germany's output of these commodities represented an important share of the world's production, as the following estimates[7] show:

	%
Synthetic Dyes	46
Electrotechnical Articles	20
Chemicals	17
Machinery	15
Steel	14
Pig Iron	13
Paper	13

6. Paton, loc. cit.

7. G. P. Adams, Facts About Germany, Cornell University, 1944, p. 86.

The overwhelming rôle of iron and steel in the German economy would seem to be borne out by the figures published in the Economic Journal, April, 1943, on the percentage of total output attributed to the principal industries in Great Britain, Germany, and the United States.

	Great Britain (1935)	Germany (1936)	United States (1935)	United States (1937)
Iron and Steel	9.9	16.5	11.2	13.6
Engineering, Shipbuilding, Vehicles	21.0	21.4	18.3	21.3
Chemicals	7.4	9.9	9.8	9.5
Textiles	13.3	11.0	8.0	7.2
Clothing	6.9	4.0	7.7	6.3

In evaluating these figures we must bear in mind, however, that in compiling them only enterprises with more than five employees were taken into account; that there may be certain differences in classification; and, most important of all, that the percentages vary greatly with the economic conjuncture in the country, since in times of depression the production of capital goods declines to a greater extent than that of consumption goods.[8] Inasmuch as the business situation was hardly the same in the periods indicated, the figures must be regarded as of relative value only.

It is important to note in this connection that the German output during the last period of war preparations represents a more efficient utilization of existing facilities rather than an increase in production facilities, and that during the war the steel output showed a decline rather than a rise. We should also bear in mind that the total steel production in 1938 was only 21.9 million tons, as against 20.0 in 1927 and 20.3 in 1929, and that although the output

8. In 1925, for instance, 3.7 per cent of all the industrially employed persons of Germany were engaged in iron and steel production, as against only 2.6 per cent in 1933. The corresponding figures for the machine and apparatus industry were 10 per cent and 6.8 per cent; for the electrical industry, 3.4 per cent and 2.8 per cent; mining, 6.2 per cent and 5 per cent; food and luxuries, 10.6 per cent and 15.5 per cent. (Statistisches Jahrbuch, 1935, p. 146.) Iron and steel constituted 8.1 per cent of the total gross production of Germany in 1927, as against 5.9 per cent in 1931; machines, 4.6 per cent in 1929 and 3.8 per cent in 1930; textiles, 9 per cent in 1929 and 11.6 per cent in 1931. In 1929 capital goods represented 58.5 per cent of the gross total; in 1931, only 45.2 per cent. (Vierteljahreshefte zur Konjunkturforschung, 1931, fasc. 3A, p. 36.)

in 1939 was 29.62 million long tons, as against 25 62 in 1938,[9] the increase was more than counterbalanced by the inclusion of Czechoslovakia (with a production volume of 2.55 million tons in 1937) and Poland (1.7 million tons in 1938).

TABLE III

GERMAN OUTPUT OF COAL, STEEL AND OTHER COMMODITIES DURING THE WAR YEARS[a]

(Millions of Tons)

Year	Pig iron	Steel	Coal	Lignite	Aluminum	Copper
1913	19 3	18 9				
1914	14 4	14 9				
1915	11 8	13 2				
1916	13 3	16 2				
1917	13 1	16 6				
1918	11 9	15 0				
1938	18 6	22 4	186 2	195 3	166 0	69 0
1939	18 8	22 9	200 0	230 0	200 0	66 0
1940	19 0	22 9	200 0	230 0	240 0	45 0
1941	18 5	22 4	190 0	235 0	290 0	
1942	18 0	22 0	175 0	243 0	300 0	59 0
1943	16 0	20 0	160 0	230 0	300 0	54 4
1944	13 0	18 0	140 0	220 0	250 0	

a The figures for the First World War are from The Iron Trade Review of the British Iron and Steel Federation Statistics on Iron and Steel Industries 1920-1921 pp 55-56 those for the Second World War from the Statistical Supplement to Myrovoye Chozyaistvo i Mirovaya Politika January 1945 The figures for 1939 1944 are approximate only they are based on data in the Statistical Yearbook of the League of Nations 1941 42 Minerals Yearbook Review, 1940, Metall Bulletin September 5, 1944, and Deutsche Allgemeine Zeitung, March 9, 1944

In general, the output of the most important war commodities during the two world wars did not increase in Germany (contrary to the experience of this country), at least not substantially, in comparison with the prewar period This is evident from the data contained in Table III. It becomes even more obvious from the following figures on the volume of mining and the manufacture of iron and steel, in percentages of 1913, during the First World War [1]

	1914	1915	1916	1917	1918
Mining	84	78	86	90	83
Iron and Steel	78	68	81	83	53

9. American Iron and Steel Institute, op. cit., pp. 110–111.

Effects of Deindustrialization

To get an approximate idea of the effect a reduction of industrial activity in Germany would have on that country itself, we must bear in mind that in 1925 the national income, amounting to 54 billion marks, was divided among the various economic groups as follows:[2]

Group	Income[3]	Percentage of Gainfully Employed in Total[4]
Agriculture and Forestry.......	ca. 10 billion = 18.5%	30.5
Industry and Handicraft.......	ca. 26 billion = 48.2%	42.1[5]
Commerce and Transportation..	ca. 12 billion = 22.2%	16.2
Public and Private Services....	ca. 6 billion = 11.1%	11.2

It is evident that the group "commerce and transportation" depends largely on industrial activity, and that it would be greatly affected by its decline. The backbone of German industry is mining, metalwork, chemical and textile production. According to the census of 1925, out of a total of 13,238,765 persons engaged in industry and handicraft, 3,468,300, or 26.2 per cent, were employed in metal-manufacturing industries; 847,400, or 6.4 per cent, in

1. Vierteljahreshefte zur Konjunkturforschung, Sonderheft 31, p. 22.

2. Although the situation has changed since then, the figures relating to that year are preferable to those resulting from the census of 1933, taken in the midst of the worst economic depression. There are only incomplete published figures of the 1939 census; they would hardly be characteristic of a peacetime economy. Besides, the situation after this war may be more similar to that in 1925 than that in any subsequent year. However, it must be noted that the extensive process of mechanization which took place in the years 1926–30 brought about a large increase in the productive capacity of German industry. Thus the increase per worker during this period in the various branches was as follows: machines, 25 per cent; metalwares, 25 per cent; mining, 18 per cent; heavy iron industry, 15 per cent; chemical industry, 13 per cent. Cf. Vierteljahreshefte zur Konjunkturforschung, 1936, fasc. 2 A, p. 117.

3. Absolute figures taken from Vierteljahreshefte zur Statistik des Deutschen Reichs, 1927, fasc. 4, p. 20, and Vierteljahreshefte zur Konjunkturforschung, 1928, fasc. 1A, p. 40.

4. Statistisches Jahrbuch, 1936, p. 17.

5. The contention that three-fourths of Germany's population is directly tied up with industry, and that 20 million workers would be affected by deindustrialization (Dorothy Thompson, The American Mercury, June, 1943) seems to be based on a misprint. The percentage of industrially employed persons in 1933 was lower than in 1925, viz., 40.4 per cent, while the proportion of Germans dependent for their living on industry and handicraft was 41.3 per cent in 1925 (Wirtschaft und Statistik, 1927, p. 571), and 41 per cent (in the "old Reich") in 1939 (ibid., 1940, p. 333). The total number of persons in the "old Reich" engaged in industry and handicraft in 1939 was 14,418,200 (ibid., 1941, p. 349).

mining; 1,206,000, or 9.1 per cent, in textile production; and 352,100 or 2.5 per cent, in the chemical industry. The rest were distributed as follows: the electrotechnical industry, 448,000; woodworking, about 970,000; production of stones and earths, about 700,000; wearing apparel, 1,400,000; foodstuffs and luxuries, about 1,400,000; construction, about 1,500,000, etc.[6]

The importance of any industry to the total economy obviously can not be measured solely by the number of persons engaged in it. The mechanical power employed and, especially, the output and the amount of capital invested are also of great moment. We therefore give in Table IV pertinent data for selected industries.

It is apparent from these figures that in terms of manpower the chemical industry is not very important; besides, it includes certain branches (soap and related industries) which are harmless. The mining industry would not have to suffer under any system of curtailed heavy industry and chemical production, since coal will be needed all over Europe and German iron-ore production was not very extensive,[7] except when the Nazis embarked on a policy of neglecting the profit factor.[8] In considering the production and manufacturing of metals and their products we must remember that only the production of iron and steel was in the hands of "big business,"[9] the manufacture of iron and steel wares being to a

6. The first four figures are from Wirtschaft und Statistik, 1927, p. 572, and the rest from Statistik des Deutschen Reichs, Bd. 466, pp. 187 and 197. The figures in the two sources are not wholly identical, since those in the first are based on a census of "working" units, and those in the second on "local" units, the difference lying in the computation of auxiliary and home workers.

The corresponding figures for 1939 (within the new boundaries of the Reich) were: 4,897,000 persons, or 29.7 per cent of the total, in metal-manufacturing industries; 796,200, or 4.9 per cent, in mining; 1,395,500, or 8.5 per cent, in textile production; 532,700, or 3.2 per cent, in the chemical industry; 692,100, or 4.2 per cent, in the electro-technical industry; 1,561,700, or 9.5 per cent, in the wearing apparel industry; 2,732,000, or 16.6 per cent, in construction. (Wirtschaft und Statistik, 1941, pp. 352ff.)

7. The percentages of native ores consumed by German blast furnaces (without the Saar) were:

1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
31.8	31.1	30.3	28.4	26.1	25.8	29.3	26.7	24.5	27.5	29.6

(Vierteljahreshefte zur Statistik des Deutschen Reichs, 1926, fasc. I, p. 23; 1926, fasc. IV, p. 5; 1927, fasc. IV, p. 4; 1928, fasc. IV, p. 4; 1929, fasc. IV, p. 4; 1930, fasc. IV, p. 5; 1931, fasc. IV, p. 6; 1932, fasc. IV, p. 6; 1935, fasc. IV, p. 7; Wirtschaft und Statistik, Sonderheft 13, p. 50.)

8. Vierteljahreshefte zur Statistik des Deutschen Reichs, 1934, Fasc. IV, pp. 39–40.

9. According to Iron Age, August 9, 1945, 80 per cent of Germany's total steel production was concentrated in nine large integrated trusts or

great extent the domain of small business[1] and handicraft.[2] The position of the machine industry was quite different. In 1928, out of 1,240,501 persons employed in this branch of the national economy, 997,754 (over 80 per cent) were working for large concerns and only 7.6 per cent for small concerns, 40.1 per cent of the total output being produced by firms with 51–500, and about 54 per cent by concerns with over 500 employees.[3]

Since artisans[4] and small concerns hardly constitute a war threat, these figures are important as showing to what extent elimination of the basic war industries could be carried out, without seriously impairing employment possibilities, and how far decentralization of certain basic industries could be achieved. They also show that, although the numbers of persons directly employed in these "critical" industries is large, their percentage in the total working population is not so overwhelming as may have appeared. In 1925 the total figure was 32,009,500; in 1933, 32,296,100.[5] The persons engaged in metal-manufacturing, engineering and

combines. In 1925, over 90 per cent of all persons engaged in the production or iron and other metals were employed in large concerns, i.e. those employing over 51 persons (Statistik des Deutschen Reichs, Bd. 418). The figure for 1933 was 93.8 per cent (Bd. 466, p. 14); 81.8 per cent were employed in concerns with over 200 workers, and 55.4 per cent in those with over 1,000 employees.

About 80 per cent of the personnel of the chemical industry was employed in large concerns.

1. In 1925, out of 863,140 persons engaged in manufacturing iron and metal wares, not more than 349,929 persons — a little over 40 per cent — were employed in large concerns (Wirtschaft und Statistik, Sonderheft 10, p. 92; Ausschuss, Vol. 11, pp. 66–67), although 77.6 per cent of the output was manufactured in concerns with over 80 employees.

2. In 1925, there were over 370,000 artisans in this branch. In 1933, out of a total of 587,000 persons engaged in manufacturing iron, steel and metal wares, around 275,000, or about 47 per cent, were blacksmiths, locksmiths, and tinsmiths. (Statistik des Deutschen Reichs, Bd. 466, p. 20.) According to the 1939 census, of the 39.8 million working persons, 16.5 million were engaged in industry and handicraft and 5.2 millions in handicraft alone. (Wirtschaft und Statistik, 1942, p. 99.) However, this figure includes large handicraft enterprises with up to 200 employees (mainly in the building trade and metal manufacturing). The number of persons employed in handicraft enterprises with over 50 persons represented only 12.3 per cent of the total. (Wirtschaft und Statistik, 1942, pp.362ff.)

3. Statistik des Deutschen Reichs, Bd. 418, and Wirtschaft und Statistik, Sonderheft 10, p. 78.

4. In order to appreciate the rôle handicraft plays in Germany, we may note that the total turnover of German industry in 1935 was 55.2 billion marks, as against 18.0 billions for handicraft. (Wirtschaft und Statistik, 1941, p. 123.)

5. Statistisches Jahrbuch, 1933, p. 34.*

TABLE IV

Relative Size of German Industrial Groups

(Values in Millions of Marks)

Industrial Group	Mechanical Power Per Cent of Total	Annual Production			Valuation of Group	
		1925	1928	1933	Gross	Net
Production of Iron and Steel	14.3	1,929[b]	2,220[b]	....	4,640	2,193
Production of Iron and Metal Wares	2.5	1,876[c]	2,907[c]	1,537	2,688	1,570
Production of Machines, Apparatus, and Vehicles	6.6	4,000[d]	3,700[d]	1,483	6,046	3,035
Production of Chemicals	6.2	2,400	....	....	4,915	2,890
Production of Electro-Technical Products	2.0	2,000	....	....	2,474	1,209[f]
Production of Textiles	6.0	5,600	4,800	-....	6,656	3,535
Mining	19.4	1,903[e]	2,200[e]	1,169[e]	5,411	2,915
Production of Food and Luxuries	10.5	4,000	....	....	9,470	5,024
Stones and Earths	5.0	....	....	....	2,392	1,430
Construction	....	5,000	....	....	2,811	992

[a] The figures are from Statistik des Deutschen Reichs, Bd. 365, 392, 418, 462 and 468; Wirtschaft und Statistik, Sonderheft 10; Statistisches Jahrbuch, 1933; Statistisches Jahrbuch fuer die Eisen- und Stahlindustrie, 1929 and 1932; Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft. Verhandlungen und Berichte des Unterausschusses fuer allgemeine Wirtschaftsstruktur (I Untersuchungsausschuss), 5 Arbeitsgruppe (Aussenhandel), 11 Band, Die deutsche Eisen- und Stahlindustrie (hereafter cited as Ausschuss), Berlin, 1930. The nomenclature is not the same in all sources; all figures are approximate

Die deutsche Industrie, prepared by the Reichsamt für Wirtschaftliche Planung, Berlin, 1939, contains data on the situation of German industry in 1936.

The value of industrial plants is as of the tax period 1928–30. The total values of German industry and handicraft were 60,943 and 31,919 million marks, respectively.

[b] Blast furnaces and steel production. Foundries, 912 and 1,031 million marks, respectively.

[c] Iron and steel wares. Rolling mills — 1,876, 2,100, and 886 million marks, respectively.

[d] Without vehicles. Value of motor vehicles 771, 1,098, and 480 million marks, respectively.

[e] Coal alone.

[f] Inclusive of the fine mechanical and optical industries.

the chemical industry would therefore represent some 12 per cent of this total. But since a certain part of those engaged in the manufacturing of iron and metal wares and chemicals and all artisans would in no way be affected, the actual percentage would probably be about one-half of this figure. We must also bear in mind that, unless employment in light industries not capable of being converted into war industries be found, the elimination of these important industries would affect other branches of industry[6] and commerce[7] (through reduction of exports and otherwise) and to a lesser extent transportation.[8] Furthermore, this change in production must affect the export trade, since iron and steel wares, machines and apparatus, electrical equipment, metal wares and chemicals played an important rôle in this trade. Their growing importance in percentages of total exports is revealed by the figures given in Table V.

In appraising these export figures we should not lose sight of the fact that the various articles produce different export surpluses as a result of the necessary imports of raw materials and the relation of exports to imports in the same category. For instance, the textile and wearing apparel industry produced essentially a passive balance, because of the imports of raw materials, yarns and fabrics;[9] on the other hand, coal, chemicals, and metal products caused

6 Of 44 billion marks worth of finished goods produced by German industries in 1930, 18 billion marks (41 4 per cent) were absorbed by industry (one half in investments, the other for consumption), with agriculture consuming 5 1 to 5.5 billion marks worth of such goods. (Vierteljahreshefte zur Konjunkturforschung, 1932, fasc 4A, p 200 and 1933, fasc 2A, p 104)

7. The German Institute of Business Research estimates that 230,000 persons were engaged in export branches of commerce and transport (Vierteljahreshefte zur Konjunkturforschung, Sonderheft 41, pp. 56–57.)

8 Transportation (at least on railroads and waterways) would hardly be affected, since the bulk of the freight consists of other articles than the critical ones. This is evident from the following figures showing the percentage of this transport attributed to certain commodities:

	1931	1932	1933	1934	1935
Coal, coke, etc.	43 3	44 7	42 8	39 6	39 9
Iron ores	3 0	2 0	2.3	3 3	4 8
Iron wares	4 2	3 7	4 1	4.7	4 4
Machines	——	0 4	0 4	0.4	0.4

(Statistisches Jahrbuch fuer die Eisen- und Stahlindustrie, 1936, p. 43; 1937, p. 43.)

9. The passive balance amounted to about 1,400 million marks in 1925, 102 millions in 1932 and over 450 millions in 1935 (The export and import figures are from the Statistisches Jahrbuch of the years concerned.)

TABLE V

EXPORT OF CERTAIN GOODS IN PERCENTAGES OF TOTAL EXPORTS[a]

Year	(1) Iron and Steel Wares	(2) Machines and Apparatus	(3) Electrical Equipment	(4) Chemicals	(5) Metal Wares	(6) Fine Mechanical and Musical Instruments	Total of 1–6	(7) Textiles and Wearing Apparel	(8) Coal
1925.......	14.1	6.7	3.6	7.7	3.7	2.8	38.6	18.3	8.0
1926.......	13.6	6.5	3.5	7.3	3.5	2.1	36.5	15.7	11.2
1927.......	13.5	7.1	3.7	7.8	3.5	2.3	37.9	17.2	8.2
1928.......	13.6	7.7	4.1	7.5	3.6	2.3	38.8	16.8	6.2
1929.......	14.5	8.5	4.3	7.1	3.8	2.2	40.4	15.6	6.4
1930.......	14.4	9.7	4.8	7.2	3.9	2.1	42.1	14.5	6.3
1931.......	14.8	9.9	5.1	7.9	3.7	1.9	43.3	14.3	6.3
1932.......	14.6	10.9	5.6	9.9	4.0	2.0	47.0	12.9	6.3
1933.......	14.5	9.0	4.5	11.5	4.2	2.1	45.8	13.1	6.5
1934.......	15.4	8.6	4.8	12.9	4.5	2.2	48.4	11.7	7.8
1935.......	17.1	8.5	4.8	12.7	4.5	2.4	50.0	10.1	8.6

a The table is computed from the Statistisches Jahrbuch, 1926–36

export surpluses, as shown in Table VI. No doubt, the decrease in exports and export surpluses caused by a decline in industrial

TABLE VI

EXPORT SURPLUSES OF SELECTED INDUSTRIAL GROUPS[a]

(In Millions of Marks)

Year	Iron Wares	Machines	Vehicles	Electro-technical Articles	Coal[b]	Chemicals[c]
1925.....	...	....	....	....	....	727
1926.....	....	. .	....	....	....	885
1927.....	....	....	....	....	....	905
1928.....	....	....	....	....	....	1,087
1929.....	.. .	....	...	....	....	1,121
1930.....	.. .	....	....	....	....	915
1931.....	1,268.7	994.3	217.7	451.6	460.5	764
1932.....	740	672.8	81.8	298.3	269.3	564
1933.. ..	584.3	473.1	80.2	195.3	229.5	587
1934.....	463.2	377.8	66.9	173.2	227.2	508
1935... .	642.7	394.7	124.2	186.8	281.8	....
1936.....	780.9	526.2	171.7	217.6	304.0	. .

a The figures for the first five articles are from Statistisches Jahrbuch fuer die Eisen- und Stahlindustrie, 1937, p. 37; for the sixth product, from W. Haeussler, Der Export der deutschen chemischen Industrie nach dem Kriege, Koeln, 1938, pp. 113 and 131.

b In the most unfavorable year (1925) imports of coal amounted to 23 per cent of the exports; they usually were less than 20 per cent.

c Their imports averaged up to about 14 per cent of the exports during 1929–35, according to the official statistics. However, Haeussler, op. cit., puts them at about 22 per cent.

activity would be very serious, and could not be remedied by an increase in the export of other items, in the first place coal, alone.[1] Extensive cuts in imports, especially of luxury articles and farm

1. The iron and steel and the chemical industries use up great amounts of the coal output. The amounts to be freed may be judged by the following figures on total production and the percentage consumed by these industries:

	1930	1931	1932	1933
Coal Production (1,000 tons)	142,698	118,640	104,740	109,692
Lignite Production	146,010	133,310	122,646	126,794
Consumption by Iron and Steel Industries	19.1%	15.2%	12.4%	13.9%
Consumption by the Chemical Industry	5.1%	4.6%	4.8%	5.1%

(Vierteljahreshefte zur Statistik des Deutschen Reichs, 1931, fasc. IV, p. 5; 1932, fasc. IV, p. 41, and 1933, fasc. IV, p. 39. Statistisches Jahrbuch, 1936, p. 139.)

products,[2] would be inevitable. This could be achieved by further strengthening agricultural production. This would involve, first of all, a splitting up of the larger estates.[3] The total area of all holdings over 50 hectares (excluding the large forest estates) in 1933 was about 11,870,000 hectares,[4] and if this area were divided into small farms, additional employment for several million persons would be created. Second, the tendency to increase forest areas at the expense of farm land[5] must be reversed. Third, a shift from animal to vegetable products, requiring smaller areas per unit of nutrition, might be necessary.[6]

The effect of the economic disarmament of Germany on the countries with which she trades may be judged from the data on exports and imports already given.[7] To complete these figures we

2. The two groups constituted the following percentages of the value of total imports:

	1927	1928	1929	1930	1931	1932	1933	1934
Selected Luxury Articles	7.7	9.4	10.1	11.7	13.6	14.2	13.9	13.2
Selected Farm Products	18.2	16.4	14.4	12.8	11.1	13.9	9.0	6.8

(Figures for the various articles in Statistisches Jahrbuch, 1928–35.)

3. Contrary to popular belief, such estates are predominant not only in East Prussia, but also in Mecklenburg, Pomerania and even in Westphalia, Bavaria, Hannover, and other provinces (see Statistik des Deutschen Reichs, Vol. 459, fasc. 1, p. 41). The splitting up of large estates has already started in the Russian zone.

4. Statistik des Deutschen Reichs, Vol. 461, fasc. 1; Vol. 459, fasc. 1, and Vol. 460. Figures for 1939 in Wirtschaft und Statistik, 1940, No. 13.

5. In 1938 the area of tilled land diminished by 43,000 ha, whereas the afforested areas increased by 100,000 ha. (Wirtschaft und Statistik, 1938, p. 762.)

Karl Brandt ("The Reconstruction of European Agriculture," Foreign Affairs, January, 1945) contends that modern agriculture depends to such an extent on the output of industry that if more people are forced back to the farm (in Germany) the capacity of agriculture to feed people will not increase but decline. This contention can hardly be maintained in this general form, since farm production in Denmark, for instance, was undoubtedly on a higher level than in Germany, despite its smaller industrial capacity in relative figures. It may be recalled that agricultural machines represented in 1928 only 5.5 per cent of the total German production of machines and apparatus. (Vierteljahreshefte zur Konjunkturforschung, Sonderheft 41, pp. 56–57.)

6. According to German estimates (Das Reich, August 23, 1942, "Der Nahrungsraum"), Germany could produce food for 3.5 million additional persons, if the use of animal products were reduced by 10 kg. per capita and replaced by 12.5 kg. of vegetable products.

7. To give an idea of the importance of certain products for world markets, we may cite that in 1934 Germany's exports in chemicals represented 27–28 per cent of the world's total, as against 13–14 per cent from England, 13 per cent from the United States and 11.5 per cent from France (Die Chemische Industrie, March, 1935). In 1928 Germany exported 29.7 per cent of

give in Table VII the percentages Germany's exports constituted of the imports of some of her neighbors.

TABLE VII

PERCENTAGES OF TOTAL IMPORTS COMING FROM GERMANY[a]

	1931	1932	1933	1934	1935	1936	1937
Belgium-Luxembourg.	17.0	16.9	16.6	14.6	12.5	11.6	11.4
Czechoslovakia.....	28.1	26.3	20.7	19.4	17.2	17.5	15.5
Denmark......	33.5	25.9	22.7	21.2	21.9	25.3	23.9
France.	14.6	12.1	10.7	9.6	8.3	7.0	7.7
Great Britain.	7.4	4.3	4.4	4.2	4.2	4.0	...
Holland	32.7	30.8	31.3	28.6	25.6	27.3	21.1
Italy.....	13.1	13.3	14.6	15.8	18.3	26.8	18.6
Norway	23.0	21.3	21.0	19.1	16.9	17.6	16.9
Poland-Danzig	24.5	20.1	17.6	13.6	14.4	14.2	14.5
Switzerland ...	29.7	29 1	29.6	27.4	26.8	24.8	22.3
Sweden	33.1	29.3	29.2	26.1	24.2	21.9	20.3

a Statistisches Jahrbuch 1933 p 100*, 1935 113*, 1938 p 127* Cf the figures in International Trade Statistics, 1934, 1935, 1936 and Hickmann-Ricker, Statistisches Handbuch des deutschen und internationalen Aussenhandels, Berlin, 1936

If the largest part of these imports were to disappear, the articles would have to come in part out of newly established domestic industries or from Great Britain and the United States. In view of the increased industrial potential and the great development of the heavy iron and allied industries, the chemical, optical and electro-technical industries in these countries during recent years, there would hardly be a shortage of the main articles of German export anywhere. More difficult might be the problem of a substitute for the German import market in certain products, for example, dairy products. But German imports of these commodities have been decreasing anyway,[8] since Germany has striven to achieve autarchy in her food supply.[9] Imports of

the world's exports in tools; the United States, 31.2 per cent; Great Britian, 27.3 per cent. (Ausschuss, 5. Arbeitsgruppe, Vol. I, p. 390.)

8. These imports represented (in million marks):

1928	1931	1932	1933	1934	1935	1936	1937
553.2	284.7	149.2	119.2	106.8	116.0	128.5	156.7

(Statistisches Jahrbuch, 1929, 1932–38.)

9. If the average farm production of the years 1927–28 and 1928–29 was equal to 100, the production in 1933–34 was 111; in 1937–38, 119; in 1938–39, 120. (Vierteljahreshefte zur Wirtschaftsforschung, 1940–41, fasc. 1, "Die Ernaehrungswirtschaft Deutschlands im Weltkriege und heute," by Hans von der Decken und Hans Liebe, p. 15.)

foodstuffs declined from 1928 to 1936 in millions of marks in terms of prices current in 1928, i.e. by volume, as follows:[1]

	1928	1930	1932	1934	1936
Animal Food................	1,494	1,489	1,180	856	887
Plant Food...	3,380	2,701	2,420	2,107	1,494

As indicated above, an increase in industrial production in countries other than Germany would enlarge their domestic markets for agricultural products. It must furthermore be considered that the absorption of large areas in the East by the Soviet Union, growing Russian influence in the Balkans and Central Europe, and payment of reparations by Rumania, Bulgaria, Hungary and Finland to Russia will divert a part of their agricultural exports from the West to the East and, in later years, influence in the same way their industrial imports. The northern countries (Netherlands[2] and Denmark) were, even before the war, more and more obliged to look to Great Britain as an outlet for their dairy and animal products, and are not likely to experience greater difficulties after the war in their sale of these products to Great Britain or elsewhere.

IV. Conclusions

The principal difficulties in economic reconstruction, in addition to those depicted above, will arise from political unrest, which is likely to prevail in Europe for a protracted period, unless the victorious nations create adequate machinery for the ample supply of food and other urgently needed materials for the devastated areas, and help them in their political and economic difficulties, with due regard to the actual needs, in accordance with a generous plan.

The period between the two World Wars has generally been regarded as a time of political and economic instability, both within the various countries and internationally. Yet nothing else could have been expected. A sound economic structure cannot prevail when large areas, owing to the uncertainty of their political status, are almost totally excluded from the benfits of international financial and commercial help needed for the expansion of their

1. Wirtschaft und Statistik, 1938, Sonderbeilage 9, p. 10.

2. The amounts involved may not be very high. The average export surplus of agricultural products in the years 1937–39 was about 100 million fls. or 55 million dollars. (Berliner Boersen-Zeitung, July 1, 1944.)

economy; when a multitude of international financial problems (war debts, reparations) remain unsettled for decades; when the large economic units close their borders to imports by constantly raising their tariffs; when economically or financially weaker nations are left alone to struggle with their monetary or trade difficulties. World War I, by its duration and magnitude, had caused dislocation of production and consumption, immense destruction of property, changes in the financial holdings of the various nations and in their productive capacities, financial burdens in the form of vast debts to foreign nations and budgetary difficulties — in short, so many economic wounds and upheavals in every part of the world that no automatic return to stable economic relations within the countries and among them could have been expected.[3] Other consequences of that war may have been even more profound: economic units developed in the course of centuries succumbed to revolution or partition, and in their place emerged a number of new states with new boundaries, often composed of parts formerly belonging to states in different stages of economic development. Enormous investments, the fruit of decades, if not centuries, of work and toil, were lost. But no international coöperation in the financial and economic field of any importance was initiated. Whatever foreign borrowing took place was of a rather spontaneous character, without regard to the actual needs of the nations. Nobody tried to help the new units in knitting their various parts together, to combine them into broader custom unions, to combat the autarchy trends, to assist them in the matter of exports and imports, or (with few exceptions) to aid them in overcoming their budgetary difficulties or inflationary movements. In a word, no effort was made to solve the problems of the economic consequences of the war on an international scale.

This war is bound to bring even greater disturbances in every field described above, especially as the old wounds have not yet healed. Some governments have followed very attentively the new trends and have prepared plans for the economic reconstruction of their homelands.[4] Some plans are already taking shape, such

3. For a detailed review of the consequences of that war, see James T. Shotwell, What Germany Forgot, New York, 1940, especially Chapter IX, "Tracing the Consequences."

4. Cf. Lewis L. Lorwin, Post-War Plans of the United Nations, New York, 1944; The Central and Eastern European Planning Board (Czechoslovakia, Greece, Yugoslavia, Poland), Documents and Reports No. 2: Plan

as the nationalization of coal mines and certain large industrial enterprises, the proposed division of all economic activity into nationalized, controlled, and private, and the establishment of a state monopoly of foreign commerce by the "Impex,"[5] in France, and the large-scale nationalization proposed in Czechoslovakia,[6] Yugoslavia and Poland. In some cases nationalization will be the result of pressure on the part of certain economic groups; in others, of the behavior of big businessmen suspected of dealings with the enemy or of German ownership of their enterprises,[7] or of a general trend in consequence either of the impoverishment of the nation and its needs for reconstruction,[8] or of a political evolution. There can be little doubt that, if these plans involve a larger part of the national economy, they may tend to delay reconstruction in certain respects, rather than to further it, unless coupled with other measures of national importance.

Such far-reaching changes in internal economy may well affect international trade and financial coöperation among the countries. International plans designed to remedy the damage done and reverse the dislocation achieved will therefore be of even greater urgency than would have been the case otherwise. The plans for the International Bank for Reconstruction, the Monetary Fund of the United Nations, and the Economic Council are today only proposals, as they were months ago, when the plans were

for Research for Post-War Reconstruction of Central and Eastern Europe, prepared by the Polish National Study Group, New York, 1942.

5. Pour la Victoire, March 3, 1945.

6. Czechoslovakia in Post-War Europe, Czechoslovak Ministry of Foreign Affairs, London, 1942.

7. This is supposed to be the case in Czechoslovakia. According to a speech made on May 20, 1945, by the Czechoslovak Minister for Industry, factories and mines formerly owned by the Germans, Hungarians, traitors and collaborationists are already being put under state administration. Sixty to seventy per cent of the nation's industry will thus be under a national administration, with heavy and key industries and the entire banking system under a unified state direction. (News Flashes from Czechoslovakia, June 4, 1945.) In the meantime decrees expropriating the properties of Germans, Hungarians and traitors have been issued.

8. Statement by Robert Lacoste, French Minister of Production. (New York Times, February 11, 1945.)

Marshal Tito is reported to have stated that, because of the great destruction of the Yugoslav economic system, planned intervention in the organization and conduct of economic reconstruction, as well as in the regulation of the entire economic life, is the only way in which all available resources of the country can be organized and exploited. (New York Times, March 11, 1945.)

framed, and it will presumably take years before they are implemented. The only working international organization is the UNRRA, but none of the problems involved can be solved to any degree by relief, even in its broadest sense. The need for more far-reaching international coöperation is already urgent, but the actual help is very slow and small. The losses described above call for enormous financial help.[9] Neither the Export-Import Bank with its capital of over three billion dollars, nor private lending, which will be slow and probably scarce, could remedy the situation. In all probability only concerted large-scale assistance through the governments of those nations which have suffered no destruction could provide anything like adequate relief.

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9. J. Tereshtenko ("American Soviet Trade," Soviet Russia Today, February, 1945) estimates the amount of the world's capital need for reconstruction and continuance of economic activity at 150 to 200 billion dollars.

THE CRITERION OF MAXIMUM PROFITS IN THE THEORY OF INVESTMENT

SUMMARY

Three logical possibilities as to what an entrepreneur should maximize: the internal rate of return, total profits, rate of profit over cost, 56. — I. The use of these criteria in the literature on the theory of capital and interest, 57. — II. The case of tree-growing: the internal rate of return, 63; total profits, 66; choice between them when a market rate of interest exists, 68; when no market rate exists, 70. — III. Total profits vs. rate of profit over cost, 71. — Where entrepreneur's funds are not limited, 75. — Financing by stock and by debts, 76.

In the literature on capital and interest there is no agreement on the fundamental issue as to what an entrepreneur should maximize. The three logical possibilities which exist are as follows. First, we can assume that the entrepreneur maximizes what Boulding has called the "internal rate of return."[1] An investment gives rise to a stream of costs and a stream of revenues in the future. We can set up an equation between these two streams discounted back to the present with a discount rate which is the unknown in the equation, and we can then solve the equation for the discount rate. This discount rate is the "internal rate of return." Secondly, we can assume that the entrepreneur finds the present value of the future gross revenue stream (V) and the present value of the future cost stream (C) by capitalizing at the interest rate ruling in the market, and maximizes the *difference* ($V-C$) between these present values. Finally, we can assume that he maximizes the present value of the future income stream (found by capitalizing at the given market rate of interest) divided by the present value, similarly calculated, of the future cost stream; i.e. he maximizes $\frac{V}{C}$. We shall distinguish between these three cases by saying that in the first case the internal rate of return, in the second case the total profit, $V-C$, and in the third case the rate of profit over cost, $\frac{V}{C}$, is maximized.

1. K. E. Boulding, "The Theory of a Single Investment," this JOURNAL, 1935, p. 475ff.

In attempting to answer the question which of these three criteria of profit maximization an entrepreneur should follow, we shall proceed on the assumption that he is confronted with many investment opportunities between which he can choose, and that he has access to the loan market. The lack of agreement in the literature derives in part from the fact that some of the authors have assumed that the entrepreneurs are entirely dependent on their own capital. This will become apparent in the analysis that follows.

I

In the theory of interest many authors start with the assumption that the internal rate of return is to be maximized. A few illustrations may be given here. Wicksell[2] imagines a case in which a community produces only one product, grapes, the juice of which is stored for a certain period until it is sold "abroad" in the form of mature wine, the price of the mature wine being a function of its age. No loan market exists. Wicksell makes the preliminary assumption that the price of the grape juice, C,[3] which can be dissolved into rent and wages, is given to the individual entrepreneur. He then proceeds to equate the price of the mature wine, W, with the price of the grapejuice, C, plus the accumulated "interest" for the period of storage (t). In this way he obtains the formula

$$W = Ce^{\rho t} \tag{1}$$

where ρ stands for the continuous "rate of interest." "The individual capitalist cultivator has now, with a given value of C, to maximize ρ." This maximization gives him the optimum period of storage, t. What Wicksell calls the continuous "interest rate" (ρ) is what was referred to above as the "internal rate of return," obtained by equating the cost of the grape juice plus interest (accumulated at the continuous rate of return) with the receipts; or, what amounts to the same thing, by equating the present value of the future receipts, found by capitalizing at the continuous internal rate of return, with the costs (which in Wicksell's special example are all incurred in the present and are identical with the cost of the grape juice). Wicksell's further procedure, by which he attempts to determine simultaneously the equilibrium rate of

2. Wicksell, Lectures on Political Economy, Vol. I, p. 172ff.

3. In reproducing Wicksell's example, we have altered his symbol for the cost of the investment (price of the grape juice) in order to make it consistent with the one we have found it convenient to use in this article.

interest in the economy as a whole and the equilibrium price for grape juice, does not interest us at this juncture, since we are solely concerned with the maximization problem of the individual entrepreneur.[4]

Åkerman proceeds in the same fashion in his treatment of durable capital goods. He supposes that only one type of durable goods is produced and that, as the durable good (for example, a house) is made more durable, the labor cost required to add one year to its lifetime decreases up to a certain point and then begins to increase. If it is supposed, for the moment, that the lifetime is given, the rate of return can be calculated by equating the total present value of the services of the durable good to its total costs, all of which are assumed to be incurred at the present moment. For instance, if the lifetime of the durable good is two years, the unknown rate of return can be calculated on the basis of the following formula:

$$al = \frac{m}{(1+i)} + \frac{m}{(1+i)^2} \qquad (2)$$

where a is the number of workers employed, l the given wage per worker, m the given value of the annual service of the durable good, and i the rate of return per year. Similar equations can be set up for all possible lifetimes. All such equations can be solved for i, and from the equation which gives the highest i we obtain the optimum lifetime. It is obvious that this procedure of Åkerman's also amounts to maximizing the internal rate of return.

One reason why economists who follow in the steps of Boehm-Bawerk postulate that the internal rate of return has to be maximized is their belief that the interest rate is something that originates in the process of production, or, more exactly, in the fact that time elapses between inputs and outputs. By first abstracting from the existence of a loan market, they show that the rate of interest is rooted in the time-consuming aspect of the process of production. Boehm-Bawerk's teminology is significant in this respect: what we have called the internal rate of return, he calls the "urspruengliche Zins." The market rate of interest appears in his theory simply as something that is derived from this "ursprueng-liche Zins." A second reason is probably that the authors con-

4. In his "Ueber Wert, Kapital und Rente," it is perhaps still clearer that Wicksell proceeds on the assumption that the individual entrepreneur maximizes the internal rate of return.

cerned, in order to avoid what may look like circular reasoning, do not want to *assume* a market rate of interest to exist from the outset. This is particularly apparent in the case of Boehm-Bawerk, who treated the explanation of the existence of the interest rate as something separate from the explanation of the level of the interest rate.

The use of the "internal rate of return" is not confined to those authors who, in the theory of interest, follow the line of thought started by Boehm-Bawerk. Professor Knight sets up equations between the present value of the costs of an investment and the present value of its returns, to be solved for the "interest rate." He supposes, for instance, that in order to build up a piece of capital equipment, an investor sacrifices income at a regular rate over time, say S dollars at the end of each year over t years. The total cost of the equipment is then $\Sigma = S + S(1+i) + S(1+i)^2 + \cdots + S(1+i)^{t-1}$ which is equal to $\frac{S[(1+i)^t - 1]}{i}$. This is the cost value of the equipment at the date when it begins to yield a return. Suppose the investment gives a uniform annual yield of R for n years, the yield being payable at the end of each year. The present value of this series of yields will be $\frac{R[(1+i)^n - 1]}{i(1+i)^n}$ at the date when the equipment has been constructed and begins to yield a return. These two expressions have to be equated:

$$\frac{S[(1+i)^t - 1]}{i} = \frac{R[(1+i)^n - 1]}{i(1+i)^n} \tag{3}$$

and the equation can then be solved for the "interest rate," which is clearly the internal rate of return. Instead of equating the costs with the present value of the yield at the moment when the investment begins to bear fruit, we can, of course, just as well equate them at the date when the investment begins to be built up, in which case the costs also lie in the future and have to be discounted back to the present. An investor is confronted with innumerable investment opportunities, for each of which he can set up such an equation. "It is assumed that the investor behaves 'economically,' i.e., that he chooses the line of investment, of all those open in his market, which makes his i the greatest."[5] This is the same as saying that he maximizes the internal rate of return.

5. Frank H. Knight, "Capital, Time and the Interest Rate," Economica, 1934, p. 265.

The list of authors (among them Boulding)[6] who proceed on the assumption that the internal rate of return should be maximized could be still further extended. The maximization of the internal rate is, however, by no means generally accepted as the criterion which the entrepreneur should adopt. Some authors favor the maximization of what was called above "total profits." This is not surprising, considering the fact that in the theory of the firm it is generally assumed that the firm maximizes total profits. But most of what has been written on the theory of the firm does not take account of the time element, and, in a timeless economy, there is, of course, no room for the "internal rate of return." It is, however, easy to define maximum profits in a way which takes account of the time element. Maximizing total profits then means: maximizing the difference between the present value of the future revenue stream and the present value of the cost stream, both found by discounting at the given market rate of interest.

For instance, Wicksell's formula (1) above would have to be rewritten

$$P = We^{-rt} - C \tag{1a}$$

and P (profits) would have to be maximized. In this formula r, the continuous rate of interest, is given to the entrepreneur; it can be derived from the market rate of interest, by the formula $r = \log_e(1+i)$, where i stands for the market interest rate quoted per unit of time (such as a year). Åkerman's formula (2) above would read

$$P = \frac{m}{(1+i)} + \frac{m}{(1+i)^2} - al \tag{2a}$$

(where i now stands for the market rate of interest, instead of the internal rate of return), and similarly for lifetimes longer than two years. That lifetime would have to be chosen which gives the maximum P. Knight's formula can be similarly rewritten.

The maximization of total profits in this sense is favored, though not in connection with the theory of capital, by A. G. Hart. "Given the entrepreneur's anticipations," he writes, "his *optimum plan* is that which offers the maximum present discounted value . . . of *anticipated net receipts*, taking net receipts in a cash-accounting sense as equal at each date to gross receipts from sales and borrowing minus gross disbursements for purchases and for pay-

6. See Boulding's article quoted above.

ment of principal and interest on the firm's debts."[7] In this formula we can just as well leave out the complication arising from debts. The present value of the interest payments on a debt plus the present value of the principal to be repaid, both found by discounting at the interest rate contracted on the debt, is necessarily equal to the value of the debt at the time it is incurred. Thus, in Hart's formula, we can leave out the latter from the minuend and the former from the subtrahend.

Samuelson, in discussing the choice between maximizing the internal rate of return and maximizing total profits, also decides in favor of the latter,[8] and so do many other authors.[9] Among them, Irving Fisher may be mentioned specifically. It is true that his "rate of return over cost" is identical with the "internal rate of return," as can best be seen from the definition: "The rate of return over cost is always that rate which, employed in computing the present worth of all the costs and the present worth of all the returns, will make these two equal."[1] But by assuming that the entrepreneur will proceed to the point where the *marginal* rate of return over cost equals the interest rate, he in fact assumes that the entrepreneur maximizes total profits (as will be seen in the next section). It seems correct also to include Keynes among the authors who assume that it is total profits which should be maximized. All these authors presuppose from the beginning the existence of a market rate of interest and therefore of a loan market.

The third criterion, the maximization of the rate of profit over cost, is less frequently adopted. Again translating the formulae given previously, Wicksell's formula would become

$$P' = \frac{We^{-rt}}{C} \tag{1c}$$

where P' stands for the rate of profit over cost and r for the continuous rate of interest derived from the market rate. Åkerman's formula would become

7. A. G. Hart, "Anticipations, Business Planning, and the Cycle," this Journal, Vol. XXII (1937), p. 278.

8. P. Samuelson, "Some Aspects of the Pure Theory of Capital," this Journal, 1937, p. 497ff.

9. See the list of authors given by Hart, loc. cit., p. 278.

1. Irving Fisher, The Theory of Interest, p. 168.

$$P' = \frac{\dfrac{m}{(1+i)} + \dfrac{m}{(1+i)^2}}{al} \tag{2c}$$

(where i stands for the market rate of interest per unit of time), and so on for the different lifetimes.

The criterion of the maximum rate of profit over cost $\left(\frac{V}{C}\right)$ has been made the basis of the discussion by Allen, in treating the optimum period of production for the "point-input — point-output" case (such as the storage of wine or the growing of trees), and also in treating the case of durable goods, the durability of which is to be determined.[2] Carlson[3] postulates that the profit rate on the entrepreneur's own capital invested in the productive process is what has to be maximized. This amounts to the maximization of $\frac{V}{C}$, provided the entrepreneur has no access to the loan market.[4] Furthermore, the formulae for calculating the expected profitability of machines commonly used by, or suggested for, firms are as a rule based on the assumption that $\frac{V}{C}$ is to be maximized.[5]

The reason why the maximization of the rate of profit over cost is less frequently adopted in economic theory than the two other alternatives is not clear. The criterion of the maximum internal rate has usually been adopted when (implicitly or explicitly) the assumption was made that no interest rate existed in the market. In passing over to the assumption that an interest rate does exist, it would seem most logical to accept the criterion of the maximum rate of profit over cost, since this, like the internal

2. R. G. D. Allen, Mathematical Analysis for Economists, 1939, pp. 362ff and 404 ff.

3. S. Carlson, A Study on the Pure Theory of Production, 1939, p. 61ff.

4. See in addition, for instance, the rôle that the profit rate plays in Hayek, Profits, Interest and Investment and other Essays on the Theory of Industrial Fluctuations, 1939, p. 8ff. However, the definition of the profit rate in this essay is different from the definition in the text, insofar as it *includes* the interest rate on the capital invested.

5. See, for instance, L. P. Alford (ed), Cost and Production Handbook, 1942, p. 779ff; W. Rautenstrauch, The Economics of Business Enterprise, 1939, Chapters 5 and 6.

rate, is a percentage rate of return. In fact, however, the criterion of maximum profits is usually adopted in this case, and one reason for this may be that in many instances, as will be shown later, the maximization of the rate of profit over cost leads, even in the absence of general equilibrium, to the same result as the maximization of total profits. Only the analysis of special cases reveals that the results can be different according as one or the other of these two criteria is adopted, and it is possible that many authors were not aware of this divergence.

It is even doubtful whether all authors have realized that different results may be obtained if the first criterion (maximization of the internal rate) is adopted rather than either of the other two. This in any case is the impression of a reader who studies their theories with the distinction between these three criteria in mind. The explanation may be that in general equilibrium when an entrepreneur just earns the going interest rate on his investment, all three criteria amount to the same thing. The internal rate of return equals the market rate of interest; the present value of the future income stream, capitalized with the market rate of interest, equals the present value of the costs ($V=C$); and the present value of the future income stream capitalized with the market rate of interest, divided by the present value of the costs of the investment is equal to unity $\left(\frac{V}{C}=1\right)$. It is therefore understandable that someone who is interested only in the final equilibrium situation may neglect the fact that in a situation of disequilibrium different results may follow from the adoption of these three criteria.

The purpose of this article, then, is first to show that the three criteria may lead to different results for the individual entrepreneur; and secondly, to decide which of them should be chosen as the basis for the theory of investment. For simplicity's sake the second and the third possibilities will sometimes be referred to as maximizing $V-C$ and maximizing $\frac{V}{C}$, respectively.

II

An entrepreneur who is confronted with many investment opportunities has to solve two problems. There is first a problem of profit maximization connected with each individual investment

opportunity. There is secondly the problem of choosing from among all the different investment opportunities at the entrepreneur's disposal that one which gives him the highest profit.

In this article we are mainly concerned with the first problem. In order to avoid all non-essential complications, let us assume that among the contemplated investment projects there is one which corresponds to what has been called the "point-input — point-output" case, exemplified by the growing of a tree. Before the entrepreneur can decide how profitable this project is in comparison with other projects at his disposal, he must determine what period of growth of the tree will give him the highest return. Our first task is to show that this period will be different according to whether his criterion of profitability is the internal rate of return or total profits; our second task is to decide which of these two criteria should be adopted.

The costs of the investment in our special case consist in the price paid for the sapling, the wages of the labor employed in planting the tree, and the rent paid for the use of land. The planting can be done in a short period of time, so short, in fact, that we can proceed as if there were no "period of construction." This example enables us to discuss the merits of maximizing the "internal rate of return" as against the merits of the two other methods, which are in this special case identical, since the maximization of $V-C$ leads to the same result as the maximization of $\frac{V}{C}$, if C is fixed.

Suppose that the entrepreneur has perfect foresight, and knows the lumber value of the tree at all the future dates at which he may possibly cut the tree and sell the lumber. Suppose, further, that the value of the lumber increases with the period of growth, though at a decreasing rate. We may then imagine the entrepreneur setting up a series of equations which equate the costs of the investment with the value of the tree at the various future dates discounted back to the present at the unknown rate of return. Solving all these equations for the rate of return, the entrepreneur finds the one which gives him the highest rate of return and chooses the period of growth which characterizes this equation. That is to say, he maximizes the "internal rate of return."

We can illustrate this procedure by Diagram I. On the y-axis

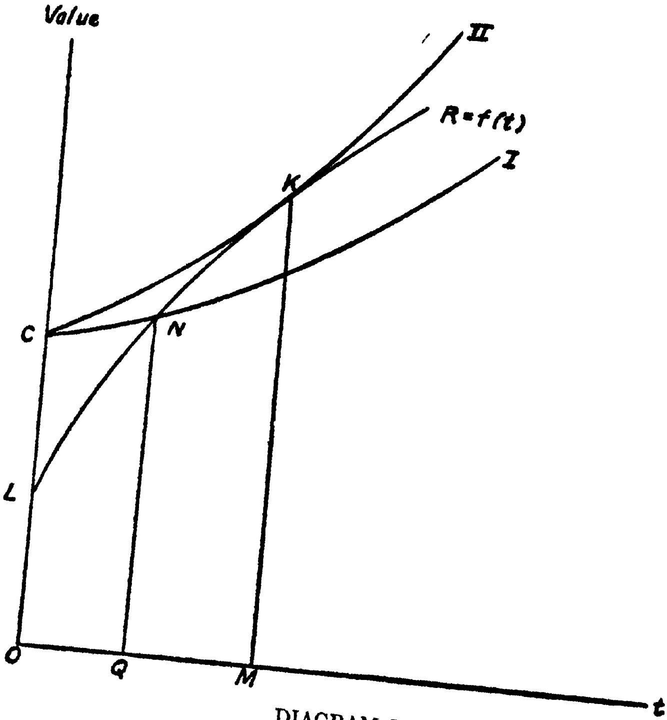

DIAGRAM I

we measure costs and present values; on the x-axis, time. The curve $R=f(t)$ represents the value of the lumber as a function of time. OC is the cost of the investment. Through C we lay a system of discount curves, two of which are drawn in the diagram. The steeper the discount curve the higher is the discount rate on which it is based. The discount curve labelled II is tangential to the curve $R=f(t)$ at the point K, giving an optimum period of growth OM. At this point the rate of growth of the tree per (small) unit of time is equal to the rate of growth of the highest discount curve "within reach" of the curve $R=f(t)$.

It is also true, of course, that at K the *percentage* rate of growth of the tree equals the discount rate on which the highest discount curve is based. This discount rate represents the maximized internal rate of return, which is equivalent to saying that it represents the maximized average percentage rate of return per unit of time on the invested capital OC. We can therefore say that

the average percentage rate of return (the internal rate) is maximized when it equals the marginal percentage rate of return (as measured by the percentage rate of growth of the tree at K). As long as the marginal percentage rate of return still exceeds the average percentage rate of return, an extension of the period of growth of the tree will raise the latter.[6] This proposition is analogous to the well-known theorem that as long as the marginal product exceeds the average product, the latter increases and will reach a maximum when it is equal to the marginal product.

Algebraically we have

$$Ce^{\rho t}=f(t)=R \tag{1}$$

where C represents the entrepreneur's given outlay on sapling, rent and wages, ρ is the continuous rate of return, and $R=f(t)$ is the revenue from the tree as a function of time; ρ is to be maximized. To this end we can differentiate with respect to t, keeping ρ constant, and obtain

$$\frac{dR}{dt}=\rho Ce^{\rho t}$$

$$\text{or } \rho=\frac{\frac{dR}{dt}}{R} \tag{2}$$

i.e. the internal rate of return is at a maximum when it equals the rate of growth of the tree divided by the value of the tree, or the average percentage rate of return is maximized when it equals the marginal percentage rate of return.

We turn now to the second criterion, the maximization of $V—C$ (or what, in the special case of the tree, amounts to the same thing, $\frac{V}{C}$). First it will be shown that if the entrepreneur maximizes V—C, he will not choose the same period of growth for the tree as he chooses if he maximizes the internal rate of return, which is independent of the market rate of interest.

As long as the percentage rate of growth of the tree exceeds the market rate of interest, the entrepreneur can augment the

6. For instance, at N on the curve $R=f(t)$ the average percentage rate of return, as measured by the discount rate underlying curve I, is below the marginal percentage rate of return as measured by the percentage rate of growth of the tree at N. It pays, therefore, to extend the period of growth beyond Q to the point M, where the marginal and average percentage rates of return are equal.

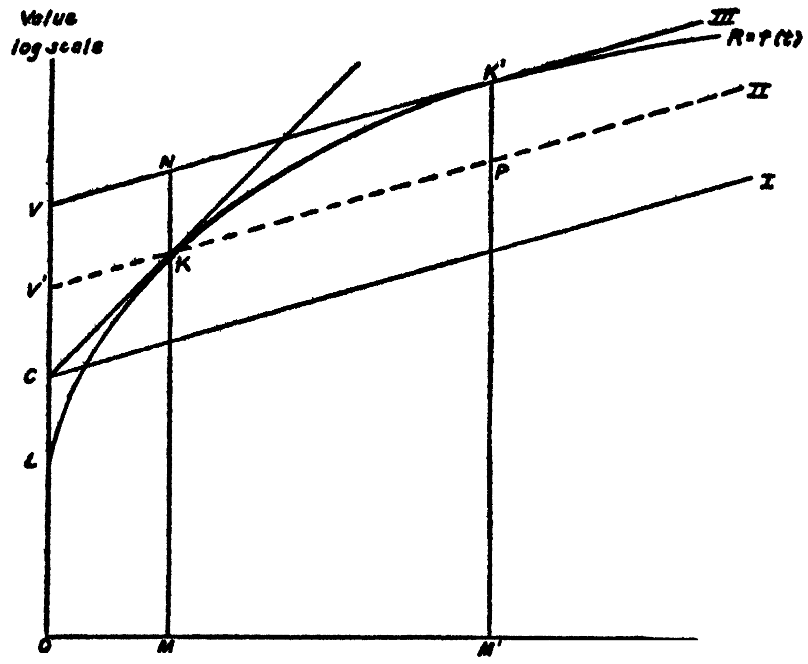

DIAGRAM II

present value of his profits by extending the period of growth. This will be so until the point is reached where the percentage rate of growth equals the market rate of interest. A diagrammatical illustration will make the point clearer. In Diagram II the vertical axis is on a logarithmic scale; a family of discount curves based on the same discount rate then appears as a system of straight parallel lines. The diagram combines, for purposes of comparison, Diagram I (on a logarithmic instead of arithmetic vertical scale) with a second diagram which is intended to show the optimum period of growth when $V—C$ is maximized. The diagram shows that when $V—C$ is maximized, the optimum period of growth is OM'. The parallel lines I, II and III represent discount lines based on the same interest rate (the market rate of interest). The highest of these lines "within reach" of the curve $R=f(t)$ (the line III) touches that curve at K'. It is obvious, then, that if the entrepreneur cuts the tree at M', he will secure the highest present value for the tree; and, since the costs of the investment are fixed, he will also obtain the highest $V—C$ (represented

in the diagram by $OV—OC$). $OV—OC$ represents the present value of what he earns over and above what he would make in the capital market if he invested OC in the latter.[7]

Thus if the entrepreneur maximizes $V—C$, he chooses the period of growth OM', whereas if he maximizes the internal rate of return, he chooses the period OM, as can be seen from the diagram. If he were to cut the tree at M, the present value of his receipts would be only OV', instead of OV, and the present value of his profit would be only $OV'—OC$, instead of $OV—OC$. It is thus clear that, unless the market rate of interest happens to coincide with the maximized internal rate of return, the optimum period of growth will be different according to whether the entrepreneur maximizes the internal rate of return or $V—C$. It remains to be decided which procedure should be chosen as the basis for a theory of investment.

Provided that a market rate of interest exists, and there are always people who value capital assets by capitalizing their yield at the market rate of interest, there can be no doubt that the entrepreneur will maximize $V—C$, not the internal rate.[8] The value of the tree, not cut but standing, would move along the discount line VK'. At M its value standing would thus be MN, which is more than MK, its value as cut lumber. The entrepreneur would, therefore, under no circumstances cut the tree at M. Either he will hold on to it until M' or, if he wants to disinvest at M, he will sell it standing at the price MN. The purchaser by letting it grow until M' will just make the market rate of interest on his investment.

So far, we have considered the case of a single investment

7. The entrepreneur maximizes

$$P = f(t)e^{-rt} - C \tag{1a}$$

where P stands for profits, $f(t)$ for the price of the lumber as a function of its age, r for the continuous market rate of interest, and C for the initial costs of investment. P is maximized where

$$\frac{dP}{dt} = f'(t)e^{-rt} - rf(t)e^{-rt} = 0;$$

$$\text{or } r = \frac{f'(t)}{f(t)} \tag{2a}$$

i.e. when the percentage rate of growth of the tree equals the market rate of interest.

8. This conclusion is also reached by Samuelson in his article, "Some Aspects of the Pure Theory of Capital," loc. cit.

which was not repeated, and compared a situation in which the entrepreneur cut the tree at M with the situation in which he let it grow until M'. We may now suppose that the entrepreneur plans to plant one tree after another over the whole period of growth of the first tree and to plant a new tree each time one is cut, so that there is a tree ripe for cutting at every moment of time following the date when the first tree was cut. The entrepreneur intends to keep this up indefinitely.

Take first the period of growth OM', which may be designated t'. After t' has elapsed the entrepreneur will obtain a perpetual gross income stream at the constant level R' ($M'K'$ in the diagram), of which the present value at M' is $\frac{R'}{r}$ and at O: $\frac{R'}{r}e^{-rt'}$. Against this he has to set a perpetual stream of costs at the level C (OC in the diagram) starting at O, the present value of which at O is $\frac{C}{r}$. In the case where he chooses the period of growth OM', $V—C$ is thus $\frac{R'e^{-rt'}-C}{r}$. If he chooses the period of growth OM, the perpetual income stream starts earlier, at M, after the lapse of the period t, and is at the level R (MK in the diagram) which is lower than R'. The present value of the income stream at O is then $\frac{R}{r}e^{-rt}$, while the present value of the cost stream is the same as before, i.e. $\frac{C}{r}$. In this case $V—C$ is therefore $\frac{Re^{-rt}—C}{r}$, which is smaller than $\frac{R'e^{-rt'}—C}{r}$, since Re^{-rt} (OV' in the diagram) is smaller than $R'e^{-rt'}$ (OV in the diagram).

Under competitive conditions the situation depicted in the diagram cannot last. Either the profit to be obtained by investing in trees will attract other investors until, through a rise in the costs of investment and a fall in the value of the trees, the present value of the output becomes equal to the cost of investment, i.e. until $V—C$ equals zero; or "speculators" will start trees at the cost of OC and sell them at once for OV, repeating the procedure until the difference between OC and OV is eliminated. In this equilibrium situation the internal rate of return becomes equal to the market interest rate as was pointed out before.

We conclude, then, that provided a market rate of interest exists, the entrepreneur investigating the profitability of a given investment opportunity should adopt total profits as his criterion of profitability, in preference to the internal rate of return. Once he has estimated the maximum profit which he can obtain from each of the investment opportunities at his disposal, he can proceed to solve the second problem mentioned in the beginning of this section; i.e. he can compare the maximized profits obtainable from the various investment opportunities and choose that one which promises the highest total profit. However, it still remains to be seen whether this result retains its validity when the third possibility, the maximization of $\frac{V}{C}$, is considered.

Writers on interest theory who, like Boehm-Bawerk, Åkerman and Wicksell, start out by supposing that a rate of interest does not yet exist in the market, have no other choice but to assume that the entrepreneur maximizes the internal rate of return. On the basis of this assumption and the postulate that all productive factors and the whole of the "subsistence fund" have to be used, they show how the size of the subsistence fund, the technical conditions of production (the greater productivity of longer periods of production), and the demand functions for the products, determine the equilibrium prices for the factors and the products, the period of production, and the internal rate of return. The market rate of interest then appears simply as a reflection of this internal rate. The effect of an increase in the subsistence fund will be to cause competitive bidding for the services of the "original" factors of production, which will raise their prices and induce the entrepreneurs to lengthen the period of production. As a result, the internal rate of return will fall. (It can easily be seen from Diagram I that if the point C is raised, the discount curve which touches the curve $R=f(t)$ will do so at a point to the right of K, and this discount curve will imply a lower interest rate than the one depicted in the diagram.) Thus the lengthening of the period of production is brought about, not directly by a fall in the market rate of interest (which in this theory plays no active rôle), but indirectly through a rise in the costs of investment, which is accompanied by a fall in the internal rate of return, a fall which is then automatically reflected in a corresponding fall in the market rate of interest.

Alternatively, if we assume, as many authors (for example, Fisher) do, that a market rate of interest exists from the start, the effect of an increase in the supply of capital will be to lower this interest rate and thus to induce entrepreneurs to "deepen" the capital structure (lengthen the period of production)[9] and also to attempt to "widen" it. The attempt to widen the structure will lead to a rise in the prices of the factors.

Thus, whether the theory is based on the internal rate of return and the market rate of interest is treated simply as a reflection of the internal rate, or whether a market rate of interest is assumed to exist from the start, the final equilibrium situation, assuming that one will be reached, is the same. It is the explanation of the mechanism of adjustment which is different.

There are, however, compelling reasons for assuming an interest rate to exist from the outset. Wicksell was already aware that one of the weaknesses of Boehm-Bawerk's and his own theory was the impossibility of defining the subsistence fund (one of the data which was supposed to determine the interest rate) in physical terms, once the fund is assumed to consist of more than one commodity. It has to be measured in value terms, and this necessitates the assumption of an interest rate, since the only way of valuing a stock of capital goods is to capitalize their yield.[1] The impossibility, even theoretically, of abstracting from the market rate of interest, requires us to start out in the theory of investment by assuming an interest rate to exist. In this case, as has been shown above, the entrepreneur will maximize $V—C$, not the internal rate of return.

III

It still has to be decided whether, in cases where $V—C$ and $\frac{V}{C}$ differ, the former or the latter expression should be maximized.

9. The "period of production" can, of course, only be defined in simple cases such as the "point-input — point-output" case which underlies the discussion in the text.

1. It cannot be measured in terms of the costs of construction of the capital goods for two reasons. First, if the subsistence fund contains some "old" durable goods, it is impossible to calculate what part of their original costs of construction has been used up and what part is still embodied in them. Secondly, the costs of construction also include interest, unless we assume that the period of construction is so short that the interest accumulated during that period can be neglected.

We may take as an example the familiar case of a house of which the lifetime can be lengthened by increasing the amount invested in it, and where the cost of adding an additional year decreases as the lifetime increases. Let us again suppose that the period of construction is so short that it can be neglected, and that we need not therefore take account of the interest which would otherwise accumulate during the period of construction. Furthermore, we neglect repair costs and assume that the rent per unit of time is constant over the lifetime of the house. Suppose that the entrepreneur aims at maximizing $V—C$.

It is clear that he will do so by choosing a lifetime for the house such that the present value of the last year's rent is equal to the cost of "producing" that last year's rent. Before this point is reached, he can always add something to the present value of his profit by increasing the lifetime of the house by an additional year. We can express this result by saying that $V—C$ is maximized when the present value of his marginal time revenue is equal to his marginal time cost. Diagram III presents this solution. On the x-axis we measure time; on the y-axis, revenues and costs. The curve $C=C(t)$ is a time cost curve; i.e. it shows the total costs as a function of the lifetime of the house. The $V=V(t)$ curve shows the present value of the total rent stream obtained from houses of different lifetimes. Since the present value of the rent per unit of time becomes smaller the more distant the rent is in the future, and since each point on the curve is obtained by adding together the present values of all the future rents for the corresponding lifetime, the curve is necessarily concave to the x-axis. Under the assumptions previously stated, the same is true for the cost curve. The optimum lifetime is then indicated by M, since at K and N the slopes of the two curves are identical and thus the difference between the present value of the rent stream and the costs is a maximum.

Suppose, now, that the entrepreneur, instead of maximizing $V—C$, decides to maximize $\frac{V}{C}$ (which for the lifetime OM would equal $\frac{MN}{MK}$). He will then extend the lifetime of the house to the point where the present value of the last rent divided by the marginal time cost becomes equal to the present value of the whole stream of rents divided by total costs. Before this point is reached,

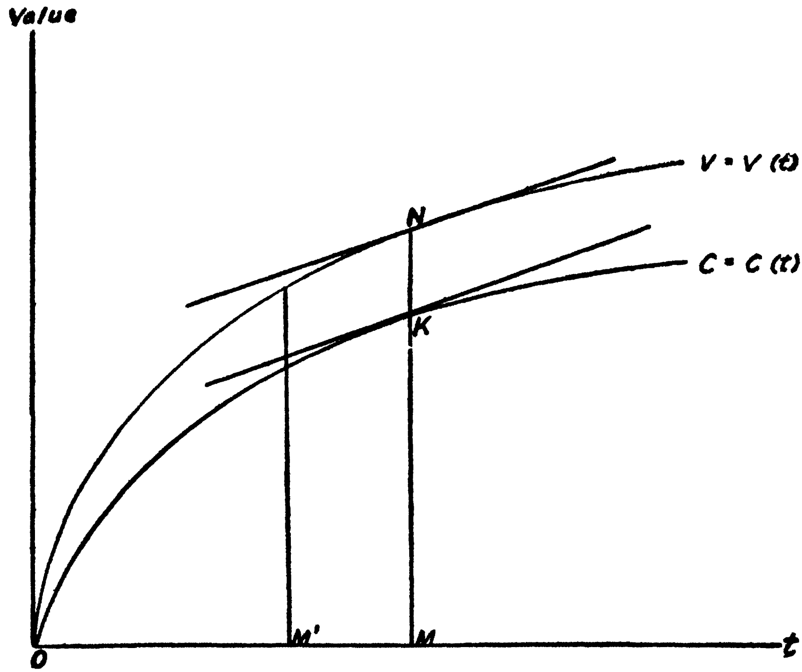

DIAGRAM III

an additional unit of cost spent on lengthening the lifetime of the house will always increase the rate of profit over cost; after this point, an additional unit of cost will decrease the rate of profit over cost.

This result can be expressed in another way. We may say that the average rate of profit over cost is at a maximum when it equals the marginal rate of profit over cost, provided it is understood that the term "average rate of profit over cost" means the present value of all future revenues divided by total costs, and that the term "marginal rate of profit over cost" means the present value of the last revenue divided by its cost. Or, if we want to use terms more closely analogous to the familiar formula in cost theory, according to which marginal revenue is equal to marginal cost, we may express the result as follows: the present value of the marginal time revenue divided by the present value of the total revenue must be equal to the marginal time cost divided by total costs.

$\frac{V(t)}{C(t)}$ is to be maximized. Hence we have:

$$\left(\frac{V(t)}{C(t)}\right)' = 0$$

$$\text{that is} \quad \frac{V'(t)C(t) - C'(t)V(t)}{[C(t)]^2} = 0$$

$$\text{therefore} \quad V'(t)C(t) = C'(t)V(t)$$

$$\text{or} \quad \frac{V'(t)}{C'(t)} = \frac{V(t)}{C(t)} \quad \text{or} \quad \frac{V'(t)}{V(t)} = \frac{C'(t)}{C(t)}$$

The maximization of $\frac{V}{C}$ gives us a lifetime for the house which is different from that given by the maximization of $V—C$. It follows from the last version of the formula given above that we could represent our solution diagramatically by drawing the logarithms of the present value curve and of the cost curve, and reading off the optimum lifetime at the point where the slopes of the two curves were equal. It is clear on inspection that this point would correspond to a point to the left of point M in Diagram III. The ordinate through M cuts the two curves at points where their slopes are equal, and at these points the *percentage* rate of increase is necessarily smaller for the curve which lies higher, i.e. $\frac{V'(t)}{V(t)} < \frac{C'(t)}{C(t)}$. At any point to the left of M the slope $V'(t)$ of the upper curve is steeper than the slope $C'(t)$ of the lower curve. At the same time, $V(t)$ diminishes more rapidly than $C(t)$ as we move away from M towards O. It follows that the point where the percentage rate of increase $\frac{V'(t)}{V(t)}$ of the upper curve becomes equal to the percentage rate of increase $\frac{C'(t)}{C(t)}$ of the lower curve must lie to the left of M (say at M'); in other words the optimum lifetime is shorter when $\frac{V}{C}$ is maximized than when $V—C$ is maximized.

It may be mentioned in passing that an analogous problem exists in ordinary cost theory which abstracts from the time element. The entrepreneur will choose a different plant if he maximizes the total profit than if he maximizes the rate of profit over cost.

We still have to decide whether in the theory of investment it

should be assumed that the entrepreneur maximizes $V-C$ or $\frac{V}{C}$. At first glance it may seem that for each technical unit of investment (e.g. for each house) the best policy will be to maximize $\frac{V}{C}$, thus choosing the shorter lifetime for the house, as indicated by M' in the diagram, and to use the additional funds which would be required to lengthen the lifetime to M to help finance a second investment duplicating the first, i.e. to help build a second house. Suppose that two houses with the lifetime OM cost the same to build as three houses with the lifetime OM'. $V-C$ for the *total* investment is obviously greater in the case where $\frac{V}{C}$ has been maximized for each of three houses than in the case where $V-C$ has been maximized for each of two houses.

This argument, however, presupposes that the entrepreneur has only a limited volume of funds at his command. In fact, he can increase his funds by borrowing, or, if the firm is organized as a corporation, by issuing stocks. Taking these possibilities into account, we may put our problem in a more general way. Suppose a firm can expand its total investment continuously,[2] either by increasing the lifetime of the durable goods (i.e. by "deepening" the capital structure) or by increasing the size or the number of durable goods (i.e. by "widening" the capital structure). As regards the widening of the capital structure, we shall suppose, in accordance with general cost theory, that in consequence of the fixity of some factor of production, as, for instance, the entrepreneur himself, the average cost curve is U-shaped.

Under these conditions it is clear that the last hundred dollars invested by the entrepreneur must yield the same revenue at the intensive margin as at the extensive margin; i.e. the present value of the revenue which can be obtained by investing the last hundred dollars in deepening the capital structure must equal the present value which can be obtained by investing the last hundred dollars in widening it. The question now is: should the firm invest

2. The assumption that the firm can increase its investment continuously by widening the capital structure is, of course, unrealistic in the case of durable goods like houses, since they are not infinitely divisible commodities. It is not necessary, however, to enter here into a discussion of the difficulties associated with indivisibilities.

in both directions until total profits are at a maximum, or should it stop at the point where investments in both directions give the maximum rate of profit over cost?

If a firm finances a certain part of its investment with its own capital and the rest by debts, then, so long as a unit of borrowed funds earns more than the interest on it, the difference will swell the total profits which go to the owner and also, since the owner's capital is fixed, the profit rate on his capital. Thus it will pay him to borrow funds up to the point where the last hundred dollars just earn the interest rate both at the extensive and at the intensive margin. This means that the lifetime which he will choose for each unit of equipment that he employs will be that which maximizes the $V—C$ on that unit, and that he will increase the number of units up to the point where the $V—C$ for the enterprise as a whole is maximized. Thus, whether the entrepreneur aims at maximizing the total profits or the rate of profit on his capital (which is not to be confused with the rate of profit over cost), he will choose that technique of production and that size for his plant which makes $V—C$ a maximum.

There is no need to enter into a discussion of what determines the proportions between stock and debts. It is sufficient to point out that provided debts are incurred at all, the maximization of $V—C$ is the appropriate criterion to follow. We may suppose that the management decides on this basis how large total assets are to be and then determines, by reference to such factors as the risk of the enterprise, the structure of its assets, and conditions in the capital market, what part of them should be financed by stock and what part by debts. The latter decision does not affect the total volume of investment, but only the method of financing.

It remains to consider the case where the firm is financed entirely by stock. Here the whole of the costs of the investment are financed by the equity holders, and if all of the latter acquire their shares on the same terms, the rate of profit on the capital they pay in will be identical with the rate of profit over cost. Under these conditions the originators of the firm may be expected to oppose additional investment financed by issuing stock to new stockholders, if such investment, though adding to the total profit of the enterprise as a whole, lowers the income on their shares. It would seem to follow, therefore, that in this case the owners

would aim at maximizing the rate of profit over cost, $\frac{V}{C}$.

But this line of argument rests on the assumption that the new stockholders in the company acquire their shares on the same terms as the old. This need not, in fact, be the case. The management can issue new stock at a higher price than that which the original stockholders paid. The price per unit (share) can be set at a level which promises the new stockholders a yield equivalent only to the market rate of interest (plus an appropriate compensation for risk). By pursuing this policy the original stockholders can increase, instead of lower, the income on their own shares. It can be shown that they will maximize the latter by maximizing $V—C$. Thus, even if a firm is financed entirely by stock, the $V—C$ formula still applies.

In practice, cases undoubtedly do exist where a firm cannot increase its capital by drawing funds from "outside." In such cases it would be reasonable to suppose that the entrepreneur maximizes $\frac{V}{C}$ on each separate investment unit. In accordance, however, with the assumption usually made in economic theory that the entrepreneur has unlimited access to funds in the capital market as long as he can show that he is able to pay the interest rate on them, the appropriate criterion for the entrepreneur to follow is the maximization of $V—C$. For each investment project under consideration he has to solve the problem of finding the maximum profits, and he will then choose from among these projects the one which yields the *maximum maximorum* of profits.

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TRADE-UNION GOVERNMENT: A FORMAL ANALYSIS[1]

SUMMARY

Importance of studying the formal aspects of trade-union government, 78. — Scope of the paper, 80. — I. Structural elements: the industry within which the union operates, 80; administrative problems faced by the union, 89; competition of other unions, 93; legal directives, 96. — II. Imitative elements: meaning of the concept, 98; illustrations, 99. — III. Power elements: meaning of the concept, 102; classification, 102; the Musicians' Union, 104; other cases, 106. — IV. Summary and conclusion: two basic characteristics revealed, 108; relative importance of different factors, 108; separation of legislative, executive and judicial authority, 109; conflicting interests, 109; union philosophy, 109; centralization, 110.

Since this paper is concerned primarily with the formal aspects of trade-union government, it is pertinent at this juncture to point out why study of these *formal* aspects is important. Many writers would doubtless deride the value of such an analysis, on the ground that union government, in actual practice, deviates to a substantial degree from what is provided in the constitution. Some would go farther and contend that the constitution is nothing more than a shibboleth, a mere "save-face" device to cover up the more "autocratic" operations that exist in reality.

Even if these accusations were well-founded, it would still be important to explore the formalistic aspects of trade-union government, if for no other reason than to find out how far the actual operation of the unions departs from the formalistic dictates. But there are other, and more important, reasons for analyzing the "machinery" of trade-union government. First, some union constitutions actually spell out, very often in detail, the extreme (dictatorial?) powers they vest in the hands of one individual or group. (The Musicians' Union is, of course, the classical example.) When the union constitution goes this far, it becomes something radically different from a "save-face" device; under such circumstances, the constitution itself paints a very vivid picture of the actual operation of the union.

1. This paper is part of a far more comprehensive study of trade-union government and policies now being carried on under the direction of Prof. William M. Leiserson. The author is heavily indebted to Professor Leiserson, as well as to Mr. Joseph Kovner, for many valuable suggestions made in conjunction with this manuscript. The author alone, however, assumes full responsibility for the views expressed.

In the second place, an analysis of constitutions becomes very significant because there are quite a number of "democratic" unions to whom the constitution is a fundamental frame of reference in their governmental problems. These unions, in other words, are run in "strict" accordance with the provision of their constitutions. (The Typographical is the classical example, but there are many others.) This becomes particularly evident when one remembers that "government" involves not only such matters as rights and obligations of officers, the distribution of financial control, and the admission of members (to mention only a few of these elements), but also such "policy" matters as the making of agreements with employers, the minimum requirements as regards wages, hours and working conditions, the permission to arbitrate, etc. These "policy" matters are problems in government, not with respect to their actual content, but rather with respect to the *locus* of authority over their determination. Few and far between are the unions that will allow policy to be made contrary to the specifications of the constitution — e.g. permit a local agreement to go into effect without national approval, when the constitution specifies that such approval is necessary. Similarly, the formal specifications of national strike control are a true reflection of the actual state of affairs in practice.[2] But all this assumes, of course, that many a union constitution deals with the *governmental* aspects of policy-making and policy content. The validity of this assumption will be proven in the ensuing analysis.

Finally, the exploration of the formal aspects of trade-union government becomes important when one realizes that in the intra-union disputes which have been aired before the various courts (involving suspension and expulsion of members, fines of members, admission of new members, etc.), the source of the court decision, in most instances, has been the provisions of the constitution (and by-laws also, of course) relating to the dispute in question.[3]

2. Cf. Kopald, S., Rebellion in Labor Unions, New York, 1924, passim.

3. To mention only a few: Dorrington vs. Manning, 135 Pa. Super. 194, 4A 2d, 86 (1939); Local Union No. 65 vs. Nalty, 7F 2d 100 (1925); Pratt vs. A. A. Street & Elec. Rwy. Ea., 50 Utah, 472, 167P. 830 (1917); Yankee Network, Inc. vs. Gibbs, 295 Mass., 56, 3NE 2d 228 (1936); Johnson vs. I. U. B. Carpenters & Joiners Local Union 971, 52 Nev. 400, 288 p. 170 (1930); Walsh vs. Reardon, 274 Mass. 530, 174NE 912 (1931); Love vs. G I. D. Brotherhood of Locomotive Engineers, 139 Ark. 375, 215SW 602 (1919); Gaestel vs. Brotherhood of Painters, Sc. 120NJ Eq. 385, 185A 36 (1936); Dingwall vs. A. A. of St. Rwy. Employees of America, (Cal. App.) 88 p. 597 (1907); Moge-

The analysis to follow[4] does not purport to be a complete and exhaustive explanation of all the formal aspects of trade-union government, to say nothing of the actual application of the formal machinery in practice. Rather, the purpose here is to offer a frame of reference, in terms of which the multifarious facets of trade-union government (in its formal appearance) can be explored. It is meant as a tool of analysis with which detailed problems can be attacked.

The formal aspects of the government of *national* unions only are considered in this paper. Although the formal machinery of one hundred sixty-seven unions[5] was examined by the writer, it will be noted that in many of the statistical data given below the sum total of the unions enumerated in each case is less, often very much less, than one hundred sixty-seven. The reason for this is simple enough: the constitutions of the unions not listed are silent on the point in question.

For the purpose of this analysis, three basic categories of determinants will be distinguished: (1) structural elements; (2) imitative elements; and (3) power elements. Actually, of course, many a formal aspect of trade-union government falls into more than one of these categories, as will be shown below; but for the convenience of exposition the three will be treated separately.

I. Structural Elements

Those elements of trade-union government which are generated by the union's experience with situations which it confronts

lever vs. Newark Newspaper Guild, 122NJ Eq. 316, 194A.6 (1937) affd 124NJE 60, 1944A.56 (1938); Monroe vs. Colored Screwmen's Ben. Assoc. No. 1, 135 La. 894, 66S 260 (1914); Rubens vs. Weber, 237 A. D. 15, 260NYS 701 (1932); People ex rel Holmstrom vs. Independent Dock Builders Benevolent Union of Great NY and Vicinity — 164 App. Div. 267, 149NYS 771 1914; Local No. 2 vs. Reinlib, 133, N J Esq. 572, 33A, 2d 710, (1943).

4. The only study of American trade-union government (in its over-all aspects) now in existence is the book by T. W. Glocker (The Government of American Trade Unions, Johns Hopkins Press, 1913). Aside from the fact that this work is dated, it is essentially descriptive, making little attempt to explain the basic determinants of trade-union government. The recent survey by the American Civil Liberties Union (Democracy in Trade Unions) is an effort in public information rather than a scholarly work.

The study by the Webbs (Industrial Democracy) relates, of course, to British labor organizations. Further, in its analytic appraisal of trade-union government (Chapters I–III), the emphasis is on one aspect of union government only — namely, the growing trend toward "centralization."

5. We are not concerned in this paper with the government of the two major labor federations: the AF of L and the CIO.

in the course of its evolution, and which are adopted with an eye to the welfare of the union as a whole, will here be considered as "structural" elements. The term, "welfare of the union as a whole," needs some elaboration.

A trade-union, like any other social group, is made up of people who, aside from their common pursuits, also have conflicting views and interests. The intensity of these conflicts varies with the matter in question, but that they exist is almost self-evident. Hence any element of government adopted by a union is bound to please some groups (or individuals) and displease others. If it is decided to amalgamate two locals, for example, the increasing strength of the resultant local may well be appreciated by the bulk of the membership, but it will probably displease those local officers who find themselves without an official position. Similarly, if it is decided to increase the per capita tax, the lower-paid members may well offer more resistance than the higher-paid ones. The criterion to use, therefore, in judging whether a given government provision in a trade-union constitution was adopted for the welfare of the "organization as a whole," is not whether it affects "adversely" some individuals or groups in the union (for this is inevitable), but rather whether or not the purpose of adopting the provision in question was to affect *specifically* the control of a given group or individual in the union at the expense of another group (or groups) in the organization. Where no such specific intent was found, it was assumed — for the purposes of this analysis — that the welfare of the union as a whole was pursued.

When we speak of the union "welfare," there is still another question that has to be considered: is it the "short-run" or "long-run" welfare? The difficulty in answering this question arises from the fact that in the case of trade-union government, unlike the case of cost-price relationships in pure economic theory, there is no *quantitative* frame of reference, in the light of which we can judge whether a given decision has been made with an eye to the short or long run.[6] All we can say, therefore, is that when a decision is made by a union with respect to a given element of its government, the time factors taken into consideration will vary with the various individuals responsible for making the decision. In some instances,

6. In the case of cost-price relationships, these quantitative references are "abundant": the time required for the entrance or exit of firms in the "industry"; the time required for the construction or depreciation of equipment — to mention only two.

this may be the "immediate future"; in other instances, it may be a far longer period; in still other instances, the question of the time-impact may not have been taken into consideration at all.

For convenience of exposition, the "structural" elements can be broken down into several basic components, although it should be noted that these components are not unrelated. They are: the environment of the industry within which the union operates; administrative problems faced by the union; the competition of other unions; and legal directives. Each of these will now be examined in turn.

(a) *The Industry*

The elements of union government which stem from this source are accounted for by such factors as the structure of the product or service market of the industry, the technology of the industry, the nature of the labor force, and the type of employer, as well as his tactics.

The contents of union policies comprise problems distinct from (although not unrelated to) the question of union government. But the *locus of authority* in policy matters is definitely a problem in union government. In the paragraphs to follow an attempt will be made to show how this locus of authority is determined by the nature of the industry in question.

The reason why the minimum scales and working conditions of traveling orchestras and traveling bands are nationally controlled by the Musicians' Union through the medium of their by-laws[7] is (basically) the structure of the market for the services of the members in question.[8] Given that these members travel from locality to locality, there is always the danger that they may undercut scales and conditions in the various centers they visit. In order to prevent this, uniform minimum scales and conditions have been indroduced in the by-laws, to which everyone must conform. Similarly, the Bill Posters and Billers' Alliance regulates, in its "laws," the minimum scales for ". . . all classes of work calling for members of (the union) to *travel* on the road."[9] Likewise, the by-laws of the

7. Approximately fifty pages of the by-laws (1942 edition) are devoted to these problems. Sections XIII and XIV.

8. In part, also, the existence of detailed scales and work rules in the by-laws of the Musicians' Union can be traced to the "guild character" of this organization. (Cf. Twentieth Century Fund, How Collective Bargaining Works. New York, 1942, pp. 851 et seq.)

9. Laws Governing Locals, 1939, Section 4. My italics.

Theatrical Stage Employees provide for a uniform ". . . schedule of prices for the government of traveling members."[1]

In those unions where contracts are negotiated on a "local" basis, the desire of the national membership to prevent competition between different locals (producing goods or services to be sold in the same market) from undermining scales and conditions has resulted in the inclusion of "preventive" provisions in various union constitutions and by-laws.[2] This explains why the laws of the Bookbinders provide:

> The wage scales established by local unions shall not be less than the minimum wage scale established for the district. (General Laws, 1941, Section 70.)
>
> It is the duty of the international union to see that wage scales shall be made uniform in the different cities of the same competitive zone. (General Laws, Section 68.)

Similarly, the constitution of the Bricklayers states:

> Where there are two or more subordinate unions existing in any city or town, each subordinate union shall be required to elect or appoint three delegates, whose duties shall be to meet and establish a uniform rate of wages and hours of labor. (Constitution, 1942, Article XX, Section 14.)

And the constitution of the Paving Cutters provides:

> It shall be the duty of the Board of Directors to correspond with each other for the purpose of keeping prices[3] as uniform as possible. Especially so in cases where blocks from different districts are flowing to a consumers' market. (Constitution, 1940, Section 10).

Finally, the constitution of the Longshoremen (AF of L) specifies:

> A local union may fix its own wage scale, unless such scale adversely affects other locals or branches in the trade. Where there is more than one local of the same craft in the same port or vicinity, such locals shall coöperate in the establishment of a uniform wage scale and working conditions. . . . If an agreement is made by a local union representing any particular line of the

1. By-laws, 1942, Article III, Section 11. Since 1914 the union has negotiated a national agreement for the traveling members. Prior to that, uniform national scales were drawn up at the annual conventions; the members were then supposed to work for no less than these scales.

2. Obviously, where there are industry-wide or regional agreements pertaining to wages, hours and conditions, there is little need for constitutional provisions regarding uniform conditions. This assumes, of course, that where the agreement is only region-wide, the market for the product or service in question is only regional also.

3. "Prices" here means wage scales.

industry . . . and if circumstances require it, an international officer or representative shall meet with the conference committee with a view of seeing to it that no provision of such an agreement is in conflict with the interests of the sister locals. (Constitution, 1943, Article XXI.)

In the Newspaper Guild, bargaining is conducted primarily on a local basis, but the constitution states that "collective bargaining on behalf of any membership group shall be guided by the Collective Bargaining of the Program of the Convention." (Constitution, 1943, Article XVIII, Section 1a). A similar procedure is provided by the Retail and Wholesale Employees (CIO). (Constitution, Article XIV, Section 1.) And in the United Automobile Workers (CIO), the constitution (1944) provides for the establishment of intra-corporation councils, competitive shop departments, and national and regional wage-hour conferences (Articles 20–23), all for the purpose of equalizing wage, hour, and condition standards throughout the country.

Finally, a number of union constitutions and by-laws specify *actual* (uniform) minimum scales, hours and conditions. Among these one might mention: the various printing trades unions, the Granite Cutters, the Paper Makers, the Bridge and Structural Iron Workers.

The necessity for the approval of local contracts by the national office, either before submission to the employers and/or after the completion of negotiations, stems — to a large degree — from the same trade-union philosophy of preventing competition between different locals, and attempting to *equalize* scales, hours, and conditions. This is explicitly stated in the constitution of the Coopers' Union in the following terms:

All contracts or agreements put before the Executive Board for approval must be thoroughly compared and the wages and the conditions made as nearly equal as possible. (Constitution, 1941, Section 33.)

At present, fifty-two unions require the approval of local contracts, either by the national president or the national executive group.[4]

A good example of union government being directly determined by the "market structure" of an industry is afforded by the Railroad Telegraphers. The establishment of the "system" basis

4. The executive group is given different names by different unions: executive board, executive council, board of directors, etc. Hereinafter, the term "executive group" will be used indiscriminately.

of organization in this union, and the abandonment of the "local division" basis, "... reflected the failure of the (older form) of organization to conform to the conditions of the telegraph service. . . ."[5] Similarly, the Pottery Workers adopted the "branch" form of organization because of the make-up of the industry.[6] The breakdown of the locals of the Transport Workers' Union on the basis of "firm units"[7] is another illustration of the same social process. Likewise, each local union in the Ladies' Handbag and Luggage Workers' Union is divided into sections according to the different branches of trade under its jurisdiction. And in the case of the "mixed" locals of the Broom and Whisk Makers' Union, ". . . no members . . . have a vote adopting a wage scale for typing or sewing brooms, except such members as are employed in that branch of trade. . . ."[8]

Union government provisions generated by the nature of the laboring force are not difficult to find. For instance, until 1942 the Brewery Workers — made up largely of men of German descent — required that all general secretaries and general organizers have full command of both the English and German languages.[9] A less amusing, although far more significant, illustration of the thesis under consideration is the case of the Actors' Equity Association.

5. McIssac, A. M., The Order of Railroad Telegraphers, Princeton University Press, 1933, p. 70.

6. Thus, McCabe writes: "It is the only way, they (the members in the trade centers, especially in the branches longest organized) can keep abreast of the developments in the various potteries affecting their respective branches, such as changes in facilities or other conditions, and prices fixed on new articles. . . . With branch local unions, too, they can maintain more direct branch control over the action of the shop committee, the union negotiating committee which takes up all questions with the employer in the first instance. . . ." (National Collective Bargaining in the Pottery Industry, Princeton University Press, 1932, pp. 54–55.

7. The constitution states: "In local unions whose members are employed by different employers, branches shall be established corresponding to the number of employer firms. For the purpose of adopting working agreements pertaining to members employed with a particular employer firm, for the purpose of declaring or calling off a strike affecting the members employed with a particular employer firm . . . the branch or branches shall meet separately and shall act upon these matters." (Constitution, 1937, Article V, Section 2.)

8. Constitution governing local unions, 1942, Article I. It is interesting to note, in contrast, that in some other unions where workers in different industries (or different branches of an industry) are grouped in the same locals, such a procedure is not provided. The Typographical Union is a case in point.

9. Proceedings, Twenty-Eighth Convention, 1942, p. 193.

According to one writer,[1] the absence of conventions[2] and the vast authority delegated to the executive group of this organization,[3] are directly attributable to the migratory character of the acting community.

The structure of executive groups, in some unions, on the basis of geographical and trade representation, is another illustration of union government being determined by the nature of the laboring force. Given the numerous conflicting interests prevalent in a trade union, some of the organizations have attempted to reconcile these conflicts, at least in part, by framing the executive group in such a manner as to afford representation for some of these interests. Thus, thirty-nine unions specify that all or part of the executive group members have to be elected on a geographical basis. Similarly, nine unions provide for representation on the executive group of the different trades in the organization. Finally, seven unions provide for both geographical and trade representation.[4]

The creation of quasi-autonomous governmental units within a union (departments, divisions, etc.), can be traced primarily, although not exclusively, to the heterogeneous character of the union laboring force, viewed from a craft standpoint. The units are generated by an intense desire of the component crafts (and/or sub-crafts) to maintain a substantial degree of autonomy, coupled with the administrative convenience of such machinery. Thus, for example, the United Textile Workers set up departments in 1932 in order ". . . to relieve the national officers of the herculean

1. Gemmill, P. F., Collective Bargaining by Actors, University of Pennsylvania Press, 1926, pp. 46–48.

2. This union has only general meetings.

3. According to the constitution of the Actors' Equity Association, "The Council shall have power to repeal or amend existing by-laws, or to create new by-laws, also to make rules supplementing this constitution and by-laws, and regarding all matters not covered by them." (Constitution, 1931, Article V.)

4. The Longshoremen (CIO) attempt to reconcile conflicting interests, at least in part, by providing that ". . . during each convention, at times and places designated by the president, each occupational group or geographical area within the international shall hold a caucus for the purpose of discussing its specific problems with full authority to set up such machinery as it may deem necessary and appropriate to deal with its collective bargaining problems. A conference of any occupational group must be called by the president when requested by a majority of the locals of that group." (Constitution, 1943, Article X, Section 7.)

task of guiding the locals in so many *varied branches of the industry*."[5] Similarly, the Amalgamated Lace Operatives have four separate sections, each one quasi-autonomous in its government.[6] The Fur and Leather Workers' Union is composed of two quasi-autonomous divisions: the fur division and the leather division.[7] The separate departments of shirtmakers, neckwear makers, and journey-men tailors in the Amalgamated Clothing Workers[8] (not to mention the structure of locals along trade and/or nationality lines) is another illustration of the thesis in question. The Telephone Operators Department in the Electrical Workers (AF of L) affords still another interesting illustration.[9] And there are still further illustrations.[1]

The prohibition of strikes in the constitutions of some of the

5. Brock, E. J., The Background and Recent Status of Collective Bargaining in the Cotton Industry in Rhode Island, Catholic University Press, Washington, 1942, p. 125. My italics.

6. The curtain section, the lever section, the curtain auxiliary section, and the lever auxiliary section. The Advisory Board of the national union consists of the president and secretary of each section. Further, the national constitution provides that ". . . each section shall elect its own separate executive committee and conduct its own separate business." (Article III, Section 5.) Finally, "in the event of a strike or lock-out of any section lasting over four weeks, the same having the endorsement of the executive committee of the section involved and the Amalgamation Committee, it shall be mandatory on the part of the Amalgamation to assess all members sufficient to pay the members on strike or lockout." (Article III, Section 14.)

7. The constitution of this union provides: "The International Executive Board shall set up a fur division and a leather division. . . . Each division shall have its own by-laws, which shall be subject to the approval of the local unions of such division and of the International Executive Board, and which shall be consistent with the provisions of the International Constitution. . . . Each division shall be entitled to nineteen members on the International Executive Board . . . with the delegates from the fur locals and the delegates from the leather locals separately electing their respective members on the International Executive Board." (Constitution, 1943, Article VI, Section 13.)

8. Strong, E. D., The Amalgamated Clothing Workers of America, Grinell (Iowa), 1940, p. 66.

9. The constitution of the Electrical Workers provided. "This Department shall be composed of telephone operators. It is endowed with authority for separate self-government — but it shall not go contrary to the laws and policies of the International Brotherhood of Electrical Workers nor to any decision of the International President. . . . It has power to make agreements. . . . The Department Officers shall have the same jurisdiction over its affairs which the International officers have over International Brotherhood of Electrical Workers affairs." (Constitution, 1935, Article XV.) This Department is no longer in existence.

1. For example: Textile Workers Union, the Associated Actors and Artistes of America, and the Flint Glass Workers Union.

unions[2] stems directly from the type of employer involved in these cases, since in all instances it is the Federal Government. The type and tactics of the employers also explains the existence of many another kind of provision in union constitutions. Thus, for example, the provision of the Newspaper Guild which does not allow members of a given unit to participate in the negotiations with the employers of that unit,[3] stems from the fear on the part of the founders of the Guild (notably the late Heywood Broun) that employers might dominate and intimidate negotiators from their own plants.[4] More recently, at the 1944 convention of the Typographical Union, it was decided to submit to referendum the question whether to permit the transfer of money from any given fund for the payment of strike benefits when it becomes necessary.[5] This was done because of the fear that employers might try to "fight" the union after the war.[6]

The question of the area of the collective bargaining agreement (whether it should be local, regional, national, etc.) is as much a problem in union government as it is one in union policy. There are, of course, several reasons why national agreements (in industries which are unionized and sell their products on a national scale) are not more common in American collective bargaining.[7]

2. E.g. American Federation of Government Employees, United National Association of Post Office Clerks, National Federation of Rural Letter Carriers, National Federation of Federal Employees, Marine and Shipbuilding Workers (for Navy Yards only), and the Special Delivery Messengers.

3. The constitution of the Guild specifies: "Not fewer than three persons shall participate in any collective bargaining on behalf of the ANG. The negotiators shall not be members of the unit involved, except in a one-unit guild where it is impossible to obtain negotiators outside the unit and where international executive board approval has been obtained. This provision shall not apply in joint negotiations with several publishers representing different financial interests. It shall be the right and duty of the unit involved to have observers present at negotiations. Under exceptional circumstances, the international executive board may grant permission for negotiations in a manner other than that provided herein." (Constitution, 1943, Article XVIII, Section 3a.)

4. From the writer's field notes.

5. It is interesting to note that at the present time thirty-six unions provide for the allocation of union monies to specific funds, with the right to transfer monies reserved only to the authority of the convention and/or the referendum.

6. Proceedings, Eighty-seventh Convention, 1944, pp. 51–58. The proposition was defeated in referendum.

7. See McCabe, D. A., "Problems of Industry-Wide or Regional Trade Agreements," American Economic Review, Supplement, March, 1943, passim; McCabe, D. A., The Standard Rate in American Trade Unions, Johns Hopkins

But one of the principal reasons is the reluctance of employers to negotiate such agreements,[8] for unions, by and large, are eager to adopt industry-wide bargaining.[9] Why employers are opposed to such agreements does not concern us here (although the reasons are fairly "obvious").[1] The important point for our purposes is the fact that here is a very clear instance of the effect of employer tactics on the form of union government.

An interesting illustration of the effect of employer tactics on the government of a union is the reorganization of the Typographical in 1888. In the words of Perlman and Taft: "The defeat of the 9-hour movement was chiefly responsible for the reorganization of the union. In 1888 a permanent headquarters was organized, and officers were required to have their residence and maintain all accounts and official records at the headquarters city. An executive council with power to enact legislation between conventions was created. . . ."[2]

(b) *Administrative Determinants*

Numerous elements of union government stem primarily, although not exclusively, from administrative problems encountered by the organizations in question. Doubtless the elements in question can be explained, to some extent, by one or more of the other factors mentioned in this analysis. Still, the cardinal reason for the adoption of these elements is the purely administrative necessity for a given type of procedure.

Press, 1912, Chapter 3; Wolman, L., "The Area of Collective Bargaining," Political Science Quarterly, LIX, 4 (December, 1944), passim; Heron, A. R., "Collective Bargaining on an Industry-Wide Basis," Stanford Industrial Relations Conference, 1939, Stanford University, p. 13; Proceedings, Eighty-seventh Convention of International Typographical Union, 1944, pp. 68 et seq.; Barnett, G. E., "National and District Systems of Collective Bargaining," this JOURNAL, XXVI (1912), passim.

8. From the writer's field notes. Cf. W. H. McPherson, Labor Relations in the Automobile Industry, Washington, 1940, pp. 38–40; Minton, B., and Stuart, J., Men Who Lead Labor, New York, 1937, p. 183; Machinists' Monthly Journal, XXIII (1921), p. 662.

9. See, for example, the excellent case made for such agreements by Golden, C., and Ruttenberg, H. J., The Dynamics of Industrial Democracy, New York, 1942, pp. 302–303.

1. For a "typical" employer viewpoint, see A. E Roth, "Is Nation-Wide Bargaining Ahead?" Atlantic Monthly, CLXXII (August, 1943), passim.

2. History of Labor in the United States, 1896–1932, New York, 1935, p. 523.

The necessity for the centralization of strike control[3] and various union benefit features, because of administrative and actuarial considerations, has been recognized by almost every writer on the subject[4] and needs no further elaboration here. There are, however, other elements which are not equally well known. These will now be considered briefly.

In many unions the provision for paying the expenses of local delegates to the national convention from the national treasury was introduced because of the inability of many locals to bear the cost of sending a delegate, coupled with the desire to have adequate representation at the convention.[5] At present, only thirty-eight out of one hundred sixty-seven union constitutions examined

3. National control, in the form of approval of strikes, is provided for in 85 of the 167 constitutions examined — approximately 51 per cent. It is interesting to compare this with only 22 per cent control in 1913 (Glocker, T. W., The Government of American Trade Unions, Johns Hopkins Press, 1913, p. 116).

A number of unions provide for more stringent centralized control of strikes than mere approval. The president of each of the following unions may call a strike whenever he deems it necessary: Musicians, Lathers. The president of the Die Sinkers, subject to the approval of the executive board, may order a strike in localities where work is being done for struck firms. The president of the Plasterers and Cement Finishers may order a strike to assist another trade. The executive board of the Boot and Shoe Workers may call a strike whenever it sees fit; a similar right is vested in the executive board of the Diamond Workers. Finally, in the case of the Hatters, Cap and Millinery Workers, the executive board may order a strike in any branch to assist another branch out on strike. Strikes may be terminated by the executive group in each of the following organizations: United Textile Workers, Farm Equipment Workers, Metal Polishers, Cement and Gypsum Workers, and Brewery Workers. As regards sanctions against locals (or other subordinate bodies) that participate in strikes without national approval (where such approval is necessary), only a few unions provide specifically for the suspension or expulsion of such locals. In the remaining unions, national control is enforced by refusing strike benefits to locals out on unauthorized strikes, and/or relying on "general provisions" in the constitution, which give the national president or executive group the right to suspend or expel any local which violates the constitution.

4. To mention only a few: Glocker, T. W., The Government of American Trade Unions, Johns Hopkins Press, Chapter 6; Sakolski, A. M., Finances of American Trade Unions, Johns Hopkins Press, 1906, passim; Weyforth, W. O., The Organizability of Labor, Johns Hopkins Press, 1917, pp. 119 et seq; Janes, G. M., The Control of Strikes in American Trade Unions, Johns Hopkins Press, 1916, passim.

5. See Mulcaire, M. A., The International Brotherhood of Electrical Workers, Catholic University Press, 1923, pp. 86 et seq; Robbins, E. C., Railway Conductors, Columbia University Press, 1914, p. 30; McIssac, op cit., p. 79.

provide specifically for the payment of expenses by the national.

Similarly, the frequency of conventions[6] is determined in many unions by financial considerations.[7] The current picture as regards the interval between regular conventions is shown in Table I. In addition, a number of unions provide for the calling of regular conventions only after a referendum vote is held. Thus, for example, the constitution of the Granite Cutters provides that once every five years a referendum is held to see whether the majority of the members want to hold a convention.[8] In the case of the Railway Carmen a referendum is held quadrennially to determine whether a convention should be called; if the proposal for a convention is defeated, a referendum is taken again the following year. Other unions that rely on the referendum for the purpose of calling

TABLE I

FREQUENCY OF UNION CONVENTIONS

Conventions to be Held (Without Exception) Every:	Number of Unions
1 year	39
2 years	44
3 years	8
4 years	18
5 years	7

6. The interval between regular conventions is important for several reasons. In the first place, the constitutions of many unions (93) can be amended only at conventions. This means that the longer the interval between regular conventions the longer will an "obsolete" law remain on the books. True, some unions provide for the calling of special conventions, but this is not universally so. (See below.) In the second place, many unions provide for the election of their officers only at conventions. Under these circumstances, lengthy intervals between conventions mean encouragement of lengthy terms of office. Here again there is a check provided in the form of recall of officers; but, as in the case of special conventions, this is not a universal practice. Finally, the interval between conventions becomes important as a result of the fact that in many unions the convention is the final court of appeal in the judicial process. (See below.) Given that a decision of a lower body (e.g. the executive board) remains in force until reversed by the convention, a long interval between conventions may frequently inflict undue — and unnecessary — hardships on many members.

7. Cf. McCabe, D. A., National Collective Bargaining in the Pottery Industry, Princeton University Press, 1932, pp. 55–56; Glocker, op. cit., p. 215.

8. By 1942 this union had not held a convention for ten years. (Troxell, J. P., "Protecting Members' Rights Within the Union," American Economic Review, Supplement, March, 1942, p. 468.)

regular conventions, either in the first or second form outlined above,[9] are: Hod Carriers,[1] Plumbers, Metal Polishers, Pattern Makers, and Boot and Shoe Workers. Finally, there are eighteen unions that provide for a fixed interval between regular conventions, but these conventions may be postponed either by action of the executive group or the rank and file. Mention should also be made of the fact that ninety-eight unions provide for the calling of special conventions, either by the president, the executive group or the rank and file.

The initiative and referendum were adopted in American trade unions, not because of any "... idealization of democratic forms of government ...", but essentially because of administrative considerations.[2] Currently, seventy-four out of one hundred sixty-seven unions provide for the use of the initiative and referendum as a legislative process — approximately forty-four per cent. (In 1913, approximately fifty-four per cent of the unions utilized the initiative and referendum as a legislative medium.)[3] At present, also, twenty-two unions provide for the referendum alone as a legislative medium. In these cases, the legislation is initiated by the convention, the executive group, or the rank and file, as the case may be. Finally, only three unions provide that any proposal submitted through the initative has to be approved by the executive group before the rank and file can vote on it.[4]

The complete separation of the executive group from the full-time officers on the part of some unions,[5] and the inclusion in the executive group of both full-time officers and ordinary members on the part of others,[6] is explained by the desire to check (adminis-

9. That is, first or second form only as regards repeating the referendum if defeated, successively each year until a convention is called, or utilizing the referendum only in the terminal year of the specified interval between conventions. It is not meant to imply that each of the unions enumerated has a (theoretical) time-interval between conventions of either four or five years.

1. By 1942 this union had not held a convention for thirty years. (Troxell op. cit. p. 468.)

2. Glocker, op. cit., pp. 207–215.

3. Ibid., p. 199.

4. Writing about the Molders, Stockton says: "In 1879 the approval of the executive board was required before a circular containing a proposal for constitutional amendment could be issued ... it was believed that this plan safeguarded the organization against rash schemes." (Stockton, F. T., The Molders Union of North America, Johns Hopkins Press, 1921, p. 31.)

5. This is true of twenty-six unions.

6. This is true of ninety-two unions. In only sixteen unions do the full-time officers, by themselves, constitute the entire executive group. A number

tratively) any excessive power on the part of the full-time officers.[7] The centralization of union admission policies also results from administrative needs.[8] The establishment of full-time union representatives and organizers stems from the same source.[9]

A striking illustration of the impact of administrative necessity on the form of union government is afforded by the American Federation of Hosiery Workers. In the early years of this union, grievances were discussed and decided at local meetings; but with the growth of the membership this procedure became unwieldy, and so the handling of grievances was gradually entrusted to the business agent or the national officer.[1]

The reason why the Air Line Pilots' Central Executive Council includes ". . . senior co-pilot representatives of all lines *flying into Chicago* . . ."[2] is simply that the headquarters of the union is located in Chicago. A similar administrative necessity explains the fact that all the members of the executive board of the Stone and Allied Products Workers (excepting the secretary-treasurer, who is the only full-time officer) are elected annually by the three branches nearest the international headquarters.

(c) *Union Competition*

The competition of "rival" unions, particularly since the advent of the CIO, has frequently acted as a determinant of a change in union government. At the 1940 convention of the Glass Bottle Blowers, for example, the president was vested with the power of suspending any local officer or member, *without trial,* in case of any violation of the constitution. President Maloney ex-

of unions have no full-time officers at all, and so their executive groups are made up exclusively of members who devote only a small part of their time to union administrative matters.

7. As Glocker put it: "National executive boards were created to serve as a check on the power of the national officers. Prior to the panic of 1873, however, no such executive boards existed in any of the more important national associations. . . . The paid officials who had ruled so long with unrestricted powers not infrequently made stubborn resistance against the inauguration of a policy which deprived them of their authority." (Op. cit., pp. 186, 187.)

8. Wolf, F. E., Admission to American Trade Unions, Johns Hopkins Press, 1912, pp. 19–33.

9. Barnett, G. E., The Printers, Publications of the American Economic Association (Vol. X, No. 3), 1909, pp. 329–331.

1. Palmer, G., Union Tactics and Economic Change, University of Pennsylvania Press, 1932, pp. 120–121.

2. Constitution and by-laws, 1940, Article VII, Section 1a. My italics.

plained why this was a necessary step. In his own words: "... Just recently we had a very, very bad situation in one of our large locals. ... The president and vice-president and secretary and two other members had been flirting with the CIO and they brought about a condition in the local that it was on the verge of destruction. About half or more of the members signed applications for the CIO, and if we had not caught that just at the psychological time we would have lost them. ... The provision is merely inserted here so that the organization can act quickly to protect itself against any individual or local union that might be making an effort to destroy the organization. . ."[3]

The problem faced by the Brewery Workers with respect to rival unionism is another case in point. During busy seasons, when extra men were needed by the brewing industry, the union issued permit cards to the men thus hired. Although these permit-card men had to pay dues, they were not of course permitted to become regular union members. As a result, the Teamsters' Union were "... carrying on a campaign among the permit-card men in various sections of the country ... promising the permit-card men equality of membership and equal pay if they joined the Teamsters. . ."[4] But to admit the permit-card men on the basis of full membership would create another difficulty. In the words of the president of the union: "If a portion of these permit-card men were admitted to regular membership, it would create an unwholesome layoff during the dull season under our rotation layoff system, and it is natural that the regular members oppose admitting permit men to regular membership in order to protect themselves against

3. Proceedings of the Fifty-fifth Convention (1940), p. 531. At the present time, thirteen unions provide that the national president may suspend any local officer without trial; in nine unions this authority is vested in the executive group; in eight unions it is vested in the national president subject to the approval of the executive group.

As regards the suspension of national officers without trial, twenty unions place this power in the hands of the national president, and sixteen unions vest it in the executive group.

Similarly, the suspension of subordinate organizations (locals, districts, etc.) by the national president without trial is permitted in twenty-three unions; twenty-eight unions permit the executive group to do this; and in twelve unions this authority is vested in the national president subject to the approval of the executive group. It should be noted that in all of the above cases the suspended party may appeal the action to the next highest authority in the union.

4. Proceedings of the Twenty-Eighth Convention (1942), pp. 132–134.

unwholesome layoffs during the dull season."[5] To obviate this difficulty, the following resolution was adopted by the convention: "That local unions desiring to establish a seniority system at the expiration of their present agreement, be privileged to do so, subject to the approval of the General Executive Board."

Similarly, the Bookbinders began accepting unskilled members in 1937, as a result of the competition of rival unions.[6] (In this instance, as in the case of the Brewery Workers, there was also a legal element involved, as will be shown below.) The unskilled members were put into "class B locals," but these class B members, unlike those in other unions to be discussed presently,[7] have the same "fundamental" rights as the skilled members.[8] The case of the Flint Glass Workers' Union is another instance of union government being influenced by the competition of rival unions. The allusion here is to the admission of unskilled members by this organization following the inroads made by the rival CIO group.

The (1943) secession movement of the Mailers in the Typographical Union was directly responsible for the adoption of the following provision at the 1944 convention of the Typographical:

> Any member belonging to, or aiding in the formation of, any organization dual to the International Typographical Union may be summarily expelled by the Executive Council without formal trial upon proof of such fact satisfactory to the Executive Council. . . . Any subordinate body of the International Typographical may be dissolved, or its charter may be revoked, or the International Typographical Union Executive Council may take full and complete charge of all the affairs of such organization when it is deemed necessary to protect the jurisdiction of the International Typographical Union. Members of the International Mailers Union who have seceded from the International Typographical Union may abandon the International Mailers Union and rejoin the International Typographical Union without prejudice up to January 1, 1945. (Proceedings, Eighty-Seventh Convention, 1944, p. 72.)

5. Proceedings of the Twenty-Eighth Convention (1942), pp. 132–134.

6. In the words of President Haggerty: ". . . there . . . were developments where it was absolutely compulsory to take in some (unskilled) members. If we had not, the CIO or a union of their own . . . would have stepped in and organized the workers." (International Bookbinder, September-October, 1940, p. 41.)

7. See below, pp. 102–4.

8. Further, the constitution provides: "In the event that class B workers are taken into any regularly chartered local union, the question of voice or vote of class B members on purely bindery matters, or the voice or vote of regular bindery members on matters pertaining to class B workers shall be left to the autonomy of the local union." (Constitution, 1941, Article I, Section 1.)

As a final illustration of the effect of "rival unionism" on the government of labor organizations, the changes in the attitude toward admission of Negroes on the part of some AF of L unions since the advent of the CIO[9] may be mentioned.

(d) *The Legal Determinant*

Certain governmental provisions in trade-union constitutions stem from the impact of the legal field. In some instances this may be a given court decision (or series of decisions) resulting from an intra-union dispute; in others, a ruling of some governmental agency, such as the National Labor Relations Board, for instance. It should be noted that the results stemming from the "appropriate unit" decisions of the NLRB are inextricably connected with the factor of union competition, as will be shown below. Further, the influence of the NLRB is not of equal importance in all cases of rival unionism — that is, as regards the internal government of unions. It is greater in those instances where a union stands to lose its existing membership in a given plant (or plants), as a result of an "adverse" Board decision, than it is in the cases where the union will only be prevented from adding new members to its rolls.

In the 1941 convention proceedings of the Hotel and Restaurant Employees, President Flore, in urging the adoption of certain constitutional changes stated:

> I desire to call your attention in connection with the Law Committee's report that your general officers proposed to our General Counsel a revision of our Constitution, so it would come up to present day interpretations of the court decisions that have been recently handed down. (Convention Proceedings, 1941, p. 87.)

A series of court cases involving the Operating Engineers[1] illustrates very well the impact of court decisions on the government of trade unions. The cases revolved around the suspensions of individual members and locals by the national president. The courts ruled that the president did not have such powers according to the union constitution. Whereupon, in 1938, the constitution

9. Northrup, H. R., Organized Labor and the Negro, New York, 1944, passim.

1. Rodier vs. Huddell, 232 App Div. 531, 250 NYS 336 (1931); Irwin vs. Possehl, 143 Misc. 855, 257 NYS 597 (1932); Irwin vs. Possehl, 145 Misc. 907, 261 NYS 164 (1932); McGrath vs. Dillon, 145 Misc. 912, 262 NYS 90 (1932); Rowan vs. Possehl, 173 Misc. 898, 18 NYS 2d 574 (1940).

was amended by referendum vote to give the president the authority to suspend a local's self-government. Locals thus suspended ". . . shall be fully and completely conducted and administered by the General President or his deputy. . . . During such suspension or International supervision all rights and powers of the Local Union to conduct its own affairs shall be suspended."[2]

Another court case[3] is equally illustrative of the impact of court decisions. The general executive board of the Street and Electric Railway Employees suspended a local member because he slandered an international officer who was assisting in the negotiation of a contract for the local with which the member in question was connected. The member took the case to court, and it was held that the constitution did not give the executive board the right to suspend the member under the circumstances in hand. As a result, the union constitution was amended to include the following clause:

> The General Executive Board shall have authority to deal with officers and individual members of a Local Division . . . who slander and abuse the officers of the Local Division or International Officers who may be assisting upon or directing the affairs of the Local Division. (Constitution and General Laws, 1941, Section 32.)

It might be added, in order to shed further light on this constitutional amendment, that the member in question had also been slandering the officers of his local.

More recently, the Supreme Court of California ruled[4] that the Boilermakers were not entitled to the closed shop, so long as they refused to admit Negroes on the same basis as whites. Whereupon the Boilermakers, in an effort to satisfy the Court and have the injunction lifted, established separate locals for whites and Negroes on an equal basis.

One should not infer from the preceding illustrations that court decisions invariably induce unions to alter their formal framework of government. There are instances where, despite a court decision pointing to a change in government, the unions in question continued with their previous forms.[5]

2. Constitution, Article VI, Section 1.
3. Walsh vs. Reardon, 274 Mass. 530, 174 NE 912 (1931).
4. James vs. Marinship, 155 P (2d) 329, December 30, 1944.
5. UBC & JA vs. Carpenters Local No. 14, Tex Cev App 278 SW 2d 558 (1944); Neal vs. Hutcheson, 160 NY Supp. 1007 (Sup Ct. 1916); Swaine vs. Miller 170 Mo. App. 446 December 7, 1897 St. Louis Court of Appeals.

The change in the Brewery Workers' attitude toward permit-card men, previously discussed, was due not only to the danger of competition by the Teamsters, but also to the fear that, unless they (Brewery Workers) changed their attitude, the National Labor Relations Board might decide on a bargaining unit which would work to the disadvantage of the Brewery Workers.[6] Similarly, the Bookbinders began accepting unskilled workers in class B locals not only because of the competition of rival unions, as noted above, but also because of "adverse" NLRB decisions.[7]

More recently the National Labor Relations Board handed down a decision in which a certification was to be withdrawn because of the failure of the union in question to represent adequately the negro workers.[8] And one should also mention the NLRB ruling in the Wallace case, upheld by the United States Supreme Court,[9] as an impact of the legal determinant on union government.

II. Imitative Elements

Many union constitutional provisions can be explained on an imitative basis. This is not meant to imply that when a given union copies a constitutional provision of another union there is no "rational" element involved. On the contrary, the adoption of a provision similar to that used by another union is predicated on the assumption that since other organizations have found it workable, the organization in question should also. The point to note, however, is that in the case of imitation, contrary to the case of structural influences, a provision is adopted by a given union, not on the basis of its *own* experience, but on the basis of *another* union's experience. That is why provisions stemming from imita-

6. In the words of the president of the Brewery Workers: "We have had incidents in our National Labor Relations Board cases on the validity of contracts, where the permit-card men testified that they had not vested collective bargaining authority in the Brewery Workers." (Proceedings, Twenty-Eighth Convention, 1942, pp. 132–134.)

7. As President Haggerty put it: "It must be borne in mind that once an election has been held and the union has been certified as the official and sole agency for collective bargaining, the union represents not only its own members but all employees in a plant or in a division of plant covered by the election." (International Bookbinder, September-October, 1940, p. 41.)

8. In re Larus and Brother Co., Inc. (Richmond, Va.) and Tobacco Workers International Union, Local 219 (AFL), Case No. 5-R-1413, June 30, 1945.

9. Wallace Corp. vs. NLRB, 65 S. Ct., 238, December 18, 1944.

tion sometimes have to be discarded when put to the test of experience. Thus, for example, the Iron Molders, when first organized, copied the constitution of the Typographical Union; but many of the provisions thus copied had to be abandoned, because of the fundamental difference between the two trades.[1]

Another distinction between the structural influence and the imitative influence is that the former is essentially evolutionary in character, while the latter is essentially static. This explains why provisions stemming from imitative factors are usually adopted when a union is first formed, while the structural provisions are generally introduced in the course of a union's development.

A very striking illustration of the imitative process is afforded by the authority vested in the president of the Laundry Workers. The constitution specifies:

> The general president shall have general supervision of the affairs . . . and his duties shall be those duties usually devolving upon the general president or executive officer of similar voluntary organizations and his authority shall be that ordinarily conferred upon similar officers having broad executive powers. (Constitution and By-Laws, 1940, Article VI, Section 1.)

The constitution of the first permanent national trade union in this country — the Typographical — was copied from the constitution of the Right Worthy Grand Lodge of the Independent Order of Odd Fellows.[2] The Glass Bottle Blowers increased the power of their president, not only because of the competition of other unions, as noted above, but also because the provision thus increasing his power ". . . had been taken from many other constitutions. . ."[3]

The similarity in the government of the unions affiliated with the Associated Actors and Artistes of America[4] is due primar-

1. Glocker, op. cit., p. 135.
2. Glocker, op. cit., p. 132.
3. Proceedings of Fifty-fifth Convention, 1940, p. 531.
4. For example: Chorus Equity Association, American Guild of Variety Artists, Screen Actors Guild, American Guild of Musical Artists, and Actors' Equity Association.

The impact of the imitative process becomes very clear when one realizes that the constitution of the American Guild of Variety Artists provides: "The original national board shall consist of the president and executive secretary or other administrator of the following affiliated unions: American Federation of Radio Artists, Actors Equity Association, Chorus Equity Association, Screen Actors Guild, American Guild of Musical Artists, and Hebrew Actors Union, together with such representatives of the active members of the profession who perform in the fields of entertainment within the jurisdiction of the association, as shall be appointed from time to time by the international

ily to the imitation process, although structural factors doubtless entered into it. In this case, the two determinants are inextricably connected. The various printing trades unions, which were all at one time part of the Typographical, have clearly "copied" government provisions from one another. This thesis is clearly illustrated by the "make-up" of the constitution of the Mailers' Union, which seceded from the Typographical only in 1943; here we have a case of a newly-formed union whose governmental machinery (unlike that of other newly-formed unions) is highly elaborated, because it is based on that of the (former) parent body, which is an old and well-established organization.

The similarity in the government of the various railroad unions (Conductors, Locomotive Engineers, Firemen and Enginemen, Trainmen, Switchmen, Maintenance of Way Employees, Railway Clerks, Railroad Telegraphers, Railroad Signalmen, Railway Carmen) is another instance of imitation being a cardinal determinant,[5] although here again it is imitation intermingled with structural necessity.

The similarity in the judicial process of many unions,[6] in the

board of the Associated Actors and Artists of America. . . ." (Constitution, 1939, Article VI, Section 9.)

5. Cf. Locomotive Firemen and Enginemen's Magazine, June 1908, pp. 865–868; Henig, H., The Brotherhood of Railway Clerks, Columbia University Press, 1937, p. 250.

6. In 78 unions the local procedure for trial of local members and/or local officers (specified in the national constitution) is characterized by the following conditions: (*a*) the trial of the member is conducted before a special committee or the local executive board; (*b*) the verdict and penalty are rendered by the local membership; (*c*) "due process" must prevail at the trial. In five unions the national constitution simply specifies that the local must provide for due process in trials, but the rest of the procedure is left to the local. In 60 unions the national constitution is completely silent on the matter of local trials for members and/or local officers brought up on charges of violating the union laws.

On the national level there are several "bodies" that exercise original jurisdiction in judicial matters. (1) Executive Group: In 64 unions this group constitutes the court of original jurisdiction for the trial of any national officer; in 21 unions this group constitutes the court of original jurisdiction for the hearing of charges against any local or other subordinate organization (district council, joint board, etc.); in 11 unions this group constitutes the court of original jurisdiction for the trial of any local officer. (2) The National President: In very few unions does this officer have original jurisdiction over the hearings of charges against any member or group in the union. (3) Special National Boards: In nine unions there are specially-created national boards for the trial of national officers up on charges.

Ten unions provide for original jurisdiction in judicial matters to be exercised at the "intermediate" level — joint boards, district councils, etc.

term of office[7] and method of election of national officers,[8] and methods of convention representation,[9] can be explained in large part, although not exclusively, by the imitation element. One has but to witness the elaboration of a constitution for a new union to be convinced of this fact.[1]

The preceding data all refer to the question of original jurisdiction. In addition, machinery is provided in union constitutions for appellate jurisdiction. Thus, on the "intermediate" level, 13 unions provide for appeals from locals to the intermediate bodies—district councils, joint boards, etc. On the national level, there is, first, the Executive Group: In 54 unions a decision of a local can be appealed to the executive group; in 35 unions a decision of the national president can be appealed to this group; and in 10 unions a decision of the intermediate group can be appealed to the executive group. The National President: In 25 unions a decision of a local can be appealed to this national officer; in three unions a decision of an intermediate group can be appealed to the president. Special National Board: In three unions a decision of a local can be appealed to the special national board. Referendum: In 9 unions a decision of the executive group can be appealed to the rank and file through the medium of referendum. Convention: In 97 unions a decision of the executive group can be appealed to the convention; in three unions this also applies to any decision of the national president, and in three unions a decision of a local can be taken directly to the convention on appeal.

It should be noted that in all the preceding data only the "similar" patterns in judicial procedure have been outlined. In addition, a number of unions have "distinct" procedures, which do not fall into any definite pattern.

7.

Term of Office	*Number of Unions*
1 year	30
2 years	63
3 years	13
4 years	24
5 years	8

In addition, there are a number of unions that have "distinct" provisions as regards the term of office. For example, the president of the Longshoremen (AF of L) is elected for life.

8. In 111 unions the officers are elected by the convention; in only 36 by referendum. The remaining unions have "distinct" provisions in this context.

9. In 60 unions the delegate representation at conventions is proportional to membership; in 50 organizations the "smaller" locals are given proportionately greater representation than the "larger" ones. The latter effect is obtained by one of the following methods: (*a*) limiting the number of delegates from any one local; (*b*) increasing the base of representation as the membership rises; (*c*) combining both of the preceding methods.

1. The "constitutional committee" that is responsible for the elaboration of the constitution of a new union invariably reads through numerous constitutions of other organizations in the course of its work. Thus, for instance, at the recent (1944) convention setting up the Office Employees (AF of L) as a national union, the term of office was decided on the basis of what prevailed in other unions.

III. Power Elements

Some phases of trade-union government, even in their formal aspects, can be explained primarily by the desire to increase, *specifically*, the power (control) of a given individual or group in the union at the expense of another group (or groups) in the organization. This formal increase in power may, of course, well have come about through a majority vote of the union membership (either directly by referendum or indirectly by convention delegates). This does not mean, however, that the provision was *necessarily* adopted for the "welfare of the union as a whole." In the first place, it is quite possible that a group (or groups) seeking power (control) at the expense of another group (or groups) constitutes the majority.[2] In the second place, it is possible to obtain a majority by "appropriate" (and presumably unethical) mechanisms on the part of the individual or group that wants to usurp power. For instance, the recognition of the credentials of convention delegates by the credentials committee (generally, although not always, appointed by the national president) can easily be used for this purpose. It should be noted that the power element itself can be conveniently classified according to whether the power is being shifted to an individual or a group. And in the case of groups, there is a further subdivision depending upon whether the group is generated by the "technological make-up" of the laboring force (different crafts or sub-crafts) or by a "purely political" split within the organization.

The existence of different classes of membership, entailing different *fundamental* rights, is a clear-cut illustration of a given group (or groups) in a union trying to attain, and particularly retain, power at the expense of another group.[3] This is true, for

2. It might be argued that such a procedure is nothing more than the very essence of democratic procedure (the rule of the majority). True as this may be, the fact remains that in the case of trade unions we find many provisions that are not adopted for the specific benefit of a given group in the union and at the expense of another group or groups. We must, therefore, draw a distinction between such provisions and those that are adopted specifically for the benefit of a given group and at the expense of another group or groups in the union.

3. In this respect the unions in question do not behave any differently from corporations that issue the bulk of their equity capital in the form of non-voting stock. (Cf. Berle, A. A., and Means, G., The Modern Corporation and Private Property, New York, 1933; Ripley, W. Z., Main Street and Wall Street, New York, 1927; Gordon, R. A., Business Leadership in the Large Corporation, Washington, D. C., 1945.)

example, in many of the organizations affiliated with the Associated Actors and Artistes,[4] in the Electrical Workers (AF of L),[5] in the Air Line Pilots,[6] and the Wall Paper Craftsmen.[7] The case of

4. This is true, for example, of the Chorus Equity Association, American Guild of Variety Artists, Screen Actors Guild, American Guild of Musical Artists, and the Actors Equity Association. The constitution of the Variety Artists provides for the following classes of members: active, associate, chorus, non-resident and honorary, but ". . . each active member and no other shall have one vote in his local and in any referendum of the membership of this association, and shall be entitled to hold any office in the association, the regional divisions or his local. . ." (Constitution, 1939, Article IV, Section 1.) The other unions in question pursue a "similar" course in this context. There is apparently an element of imitation here. This suggests the elaboration of a category of elements classified as "power-imitative." The writer did not, however, find enough cases of such elements to warrant a separate category of classification.

It is interesting to note that in a recent NLRB group of cases (Cases Nos. 21-R-2263 to 21-R-2273, inclusive) involving the Screen Actors Guild (which provides for class A and class B members) the Board ruled that the "extras" (i.e. basically all class B members) constituted an appropriate bargaining unit. The Board stated, in part: "Although Class B members are specifically granted the right to vote on the question of a strike of the Class B membership, to vote at class B membership meetings, to vote on approval of collective bargaining agreements made by the board of directors affecting their interests, and to initiate and vote for a specified manner of withdrawal of class B members from the Guild, all such voting privileges are qualified by restrictive provisions, and *it is apparent that essential control of the Guild is effectively retained by its class A members.*" (In the matter of R. K. O. Radio Pictures et al., cases Nos. 21-R-2263 etc., p. 9, my italics.)

5. The 1943 constitution provides that class A members (outside electrical workers, inside electrical workers, etc.) are entitled to one convention delegate for the first 100 members or less, and one additional delegate for each additional 100 members or major fraction thereof; class B members (employees engaged in the miscellaneous branches of the electric industry), on the other hand, are allowed only one delegate for the first 500 members or less, and one additional delegate for each additional 500 members or major fraction thereof. Further, class A delegates are allowed as many votes as the number of members they represent, while class B delegates are allowed one vote for the first 100 members or less, and one additional vote for each additional 100 members or major fraction thereof.

It should be noted that these provisions are an improvement over the conditions obtaining in, say, 1935. Thus, the constitution of that date provided that class A members were entitled to one convention delegate for the first 100 members or less and one additional delegate for each additional 100 members or major fraction thereof; class B members were allowed only one delegate for each local. Further, class A delegates were allowed as many votes as the number of members they represented, while class B delegates were allowed only one vote each.

6. This organization distinguishes between pilots and co-pilots. At conventions, each first pilot delegate has one vote for *each* first (or reserve) pilot member represented by him, while each co-pilot delegate has one vote for every *two* co-pilot members represented by him. (Constitution and By-Laws,

unions having Negro auxiliaries has been adequately treated elsewhere[8] and needs no further comment here.

The extensive power vested by the Musicians' Union in their president[9] seems to be a case of "power control." It might be argued that, to a large extent, the authority thus vested in the Musicians' president is due to "structural influences." This argument is predicated on the assumption that, because the by-laws of the union contain so many work rules and scale provisions, it is necessary to entrust the administration of these laws to some individual; and the most logical choice is, of course, the President. The validity of this "argument" is, however, open to question on two grounds.

In the first place, there are numerous provisions in the constitution and by-laws which do not concern wages, hours and conditions. Further, even with respect to these policy matters, there is no necessity for vesting such broad powers in the president. If we were dealing with an industry where *instantaneous* changes in policy are continually being made, where changes must be made *rapidly*, because of the nature of the industry, then perhaps one could find some justification for such broad powers on a purely structural basis. But such is not the case in the field of musical entertainment. Wages, hours and conditions — in minima form — can be fixed for relatively long periods (at least a year or so) without requiring any changes in the interim. True, controversies (between employers and the union) are continually developing which may well require the presence of the president — or one of his representatives — on the scene for settlement purposes; but

Article II, Section 8.) The same voting procedure applies to the members on the union's board of directors. (Ibid., Article VI, Section 1.)

7. The constitution of this union specifies: "In craftsmen locals, there shall be one delegate for the first fifty members or less and one delegate for each additional fifty members or major fraction thereof. The workers locals shall be represented by one delegate for the first 200 members or less and by one delegate for each additional 200 members or major fraction thereof." (Constitution and By-Laws, 1938, Article VII, Section 3.)

8. Northrup, op. cit., pp. 2–5 and passim.

9. "The president may annul and set aside constitution, by-laws, standing resolutions, or any portion thereof, excepting such which treat with the finances of the organization, and substitute therefor other and different provisions of his own making; the power to do so is hereby made absolute in the president when, in his opinion, such orders are necessary to conserve and safeguard the interests of the federation, the locals or members; and the said power shall in like manner extend to and include cases where existing laws are inadequate or provide no method of dealing with the situation." (By-Laws, 1942, Article I, Section 1.)

such a condition prevails in many other industries without extensive powers being vested in the president. The settlement of grievances can be appropriately handled by adequate machinery provided in the labor agreement, without giving the president the power to amend the constitution and by-laws.

In the second place, even if one were to admit that, because of the numerous policy provisions in the by-laws of the Musicians, "vast" authority for administration of these constitutional provisions has to be vested in somebody, it is still true that the authority could have been vested in the entire executive group, rather than in the president alone. Thus, for instance, a number of the unions affiliated with the Associated Actors and Artistes[1] delegate substantial *legislative* authority to the executive group, but the delegation is to an entire *group*, not to one *individual*. Similarly, other unions have entrusted vast legislative powers to their executive groups: Stonecutters,[2] United Leather Workers,[3] Air Line Pilots,[4] and Street Railway Employees.[5]

1. This is true of the Actors' Equity Association, the American Guild of Musical Artists, and the Chorus Equity Association. Thus, the constitution of the Actors' Equity Association provides: "The (executive) council shall have power to repeal or amend existing by-laws, or to create new by-laws, also to make rules supplementing this constitution and by-laws, and regarding all matters not covered by them." (Constitution, 1931, Article V.) The other unions mentioned have identical provisions.

2. The executive board of this organization has the right to amend the constitution by unanimous vote. (Constitution, 1938, Article XVII, Section 2.)

3. The constitution of the United Leather Workers specifies: "The general executive council shall have the power to declare an emergency and suspend the operation of any law for a period of ninety days, to extend the suspension from time to time until in their judgment the emergency has ceased to exist." (Constitution, 1937, Section 16a.)

4. The constitution of the Air Line Pilots provides: "The constitution and by-laws may be altered, amended, repealed, or added to by an affirmative vote of a majority of the Board of Directors in attendance at any annual convention, provided that a written notice shall have been sent to each council at least sixty days prior to the convention, which notice shall state the alterations, amendments, or changes which are proposed to be made. Only such changes as have been specified in the notice shall be made. If, however, 75 per cent of all the Directors shall be present, in person or by proxy, at any regular or special meeting, the constitution and by-laws may be amended by a majority vote, without any previous notice. The constitution and by-laws may also be amended at any time by ballot through the mails by a majority vote of the Board of Directors." (Constitution and By-Laws, 1940, Article I, Section 11.)

5. In the case of the Street Railway Employees, the president, treasurer, fourteen vice-presidents, and general executive board, constituting a committee, are empowered to waive any clause of the constitution by a three-fourths vote until the next convention. (Constitution and General Laws, 1941, Section 171.)

Another clear illustration of union government procedure based on "power politics" is the case of the Mailers' group in the Typographical Union.[6] The Typographical is characterized by a true party system,[7] there being two parties in the union: the Progressives and the Independents (up to recently also known as the Wahnetas). The membership has been about equally divided between the two parties, with the Mailers' group holding the balance of power. For a long time the Mailers seem to have sided with the Independents. Hence, when the Progressives succeeded in being elected to office in 1926, they attempted to strip the Mailers of their trade district union and their right to elect one of the vice-presidents. This attempt, which was stopped by court injunction, was clearly motivated by the desire of the Progressives to break up the Mailers' group as an opposition bloc.

Similarly, decentralized control in the building trades, according to one authority, thrived for a long time because, ". . . some trades were able to secure local privileges and did not want these disturbed by national officers and national conditions. It was on this account that many local unions which had exclusive agreements with their employers opposed national control. . . ."[8]

The method of voting in the Pressmen's Union may well have been motivated by the desire of the national officers to retain power. The officers are elected by a referendum vote, but the votes are counted on a unit basis — one vote for the first fifty members or less, one vote for the next fifty members or fraction thereof, and one vote for each additional one hundred members, with a maximum of ten votes to a local. This voting method gives greater proportional weight to the influence of the small locals, which are likely to be weak and to need the aid of the national office.[9] In addition, the ballots of the members are counted by the incumbent national officers.[1]

6. Recently a good portion of the Mailers seceded from the Typographical to form the International Mailers' Union.

7. See Taft, P., "Opposition to Union Officers in Elections," this JOURNAL, February, 1944.

8. Haber, W., Industrial Relations in the Building Industry, Harvard University Press, 1930, p. 310.

9. Loft, J., The Printing Trades, New York, 1944, p. 207.

1. The constitution provides that ". . . The Board of Electors (which counts the ballots) shall consist of the President and the Secretary-Treasurer of the International Union and one member of a subordinate union to be selected by said President. . . ." (Constitution and Laws, 1940, Article II, Section 12.) Resolutions have been presented at succeeding conventions to

The pattern of the salaries of (full-time) union presidents seems to suggest that the impetus behind their determination in certain cases may well have been a "power" factor (although this is far from certain), for we find, as shown in Table II, that for

TABLE II

RANGE OF SALARIES OF TRADE-UNION PRESIDENTS*

Union Size (Number of Members)	Range of Salaries (Dollars per Annum)
Less than 10,000	2,280–12,000
10,000– 19,999	3,500– 8,500
30,000– 39,999	2,400– 6,500
40,000– 49,999	1,200– 8,500
50,000– 74,999	2,600 20,000
75,000– 99,999	2,600–15,000
100,000–149,999	4,000–20,000
150,000–199,999	10,000–15,000
200,000–299,999	6,240–12,000
300,000–399,999	(only one union)
400,000–499,999	7,500–12,000
500,000 and over	7,500–30,000

* No averages were calculated for the several size-groups, because they would have little statistical value in view of the extreme skewness of the frequency distribution within each size-group.

different unions in the same size group the range of presidents' salaries is quite large.[2] Further, and in substantiation of the stand taken here, one should mention the "unique" salary and expense provisions in the case of a number of well-known labor organizations.[3]

revoke this provision, but each time the proposal has been defeated after a report of non-concurrence by the committee on laws, which is appointed by the president.

2. One might argue that, in practice, "low" salaries are compensated for by "high" expense accounts. But the contrary is true. From field investigations the writer was able to learn that "low" (high) salaries and "low" (high) expense accounts go together.

3. The Musicians, Teamsters, and Bridge and Structural Iron Workers are illustrations in point. The constitution of the Musicians, for instance, specifies: "The president shall receive a contingent expense account of $3,000 per annum for the spending of which he shall not be required to make an accounting, and when the interests of the American Federation of Musicians or any of its locals demand his leaving the jurisdiction wherein he resides, he shall receive $5 per diem and all hotel and traveling expenses. Should such visits be occasioned by a theatrical controversy or one of national importance, the hotel and traveling expenses shall be defrayed by the Federation; if occasioned

IV. Summary and Conclusion

A survey of the constitutions and by-laws of the various national unions in this country reveals two basic characteristics about the formal government of these organizations: (1) extreme dissimilarity on certain points, and (2) striking similarity on other points. This dichotomy suggests that certain formal aspects of union government are determined by structural conditions peculiar to each union — the nature of the industry, legal factors, administrative problems, etc. These structural conditions would, accordingly, account for the heterogeneous facets of functional union government. As for the homogeneous elements, two possible explanations suggest themselves: the "general" economic environment of the country as a whole, or an imitation process. It is hardly likely that the former element is a significant factor, in view of the prevailing philosophy of American trade unions, which focuses all the union's attention on problems concerning the union directly and immediately. In addition, it is very questionable whether the "general" economic environment is a sufficiently homogeneous force to leave a "uniform" impact on trade-union government. It would seem, therefore, that we have to turn to the imitative process for an explanation of the similarity in certain functional aspects of trade-union government.

It is difficult to say whether, at the present time, most of the union government provisions have had their source in structural or imitative factors. What we do know, and this is the significant point, is that many aspects of trade-union government, originally adopted on an imitative basis, were scrapped by the unions when it was found that the provisions did not suit the structural needs of the organization in question. This seems to point to the conclusion that, by and large, American trade unions have fashioned

by a controversy of local complexion other than theatrical, the local requesting his presence shall bear the hotel and traveling expenses, but the per diem allowance shall be borne by the Federation.

"He shall have authority to purchase, from the funds of the Federation, an automobile for his own use, the upkeep of said automobile, including garage rent, insurance, gas, oil and all necessary repairs, together with such other expenses as may be incurred in the way of legal services, and/or damages, as the result of accidents, to be borne by the Federation; he shall be entitled to the services of a chauffeur, whose salary shall be determined by the executive board of the Federation, and paid for out of the funds of the Federation; and he shall have authority to trade-in said automobile whenever, in his judgment, a trade-in is advisable." (By-Laws, 1942, Article I, Section 1.)

their government machinery to suit their peculiar needs in the light of ever-changing conditions. True, some aspects of trade-union government seem to belie this conclusion, particularly those elements which have their genesis in the lust for power of given individuals or groups; but, as was pointed out previously, these elements are definitely of little quantitative importance. The power factor is doubtless of far greater importance in explaining the *actual operation* of trade-union goverment than in determining the *purely formal* aspects of this governing process — the problem which concerns us here.

The preceding analysis of the formal aspects of trade-union government has disclosed that there is not sufficient separation between the tenants of legislative, executive and judicial authority. In some unions a considerable portion of all three are vested in the executive group. In other unions, the national president alone may hold a considerable portion of these powers. The consequences of this are simple enough to visualize; but it should be noted that the separation of powers would, in turn, generate problems of a different sort.

The preceding analysis has also shown that trade-union government machinery can often be used effectively to reconcile conflicting interests within the union. The inclusion in the executive group of representatives on both a geographical and trade basis, the creation of quasi-autonomous departments and divisions along trade lines, and the existence of separate locals constructed on trade or nationality lines — all these devices help to compose conflicting interests within the union. The implications of this machinery for the future of (so-called) industrial trade-unionism are significant, for in the industrial union one finds a host of separate interest groups on trade lines.

Finally, the preceding analysis has disclosed that union government, at least in its formal aspects, is not necessarily conditioned by union philosophy. It was found that the unions which are supposed to be "communistic" — the National Maritime Union, the Longshoremen (CIO), the United Federal Workers, the Office and Professional Workers, the Fur and Leather Workers, etc. — are no different in government from unions that are of the so-called "business" type. The differences, when they do exist, are attributable to structural conditions, rather than to union philosophy.

There has, of course, been considerable growth in centraliza-

tion of trade-union government machinery[4] since the appearance of national labor unions in this country. This growing centralization has been due, in large part, although not exclusively, to structural forces necessitating it — changing economic conditions of the industries concerned, actuarial and administrative considerations, etc. It has manifested itself not only in "purely governmental" matters such as admission of membership, per capita taxes, the judicial process, but also in matters of policy-content and policy-procedure — witness the increasing importance of national (industry-wide) wage negotiations.

This growing centralization, necessary (and, according to some, also "desirable") from an economic point of view, carries with it certain sociological consequences for the unions concerned, since a trade union is more than an economic creature; it is also a

4. Despite the fact that so many "authorities" have spoken of the centralization of control in the American trade union, the term has not yet received a precise definition. That a precise definition is necessary becomes evident when we realize that there are any number of governmental matters that can be "centralized" — the determination of wages, hours and working conditions, strike procedure, settlement of grievances, finances, the judicial process, rights and obligations of local officers, etc. Does centralization mean national control of all these matters? Or does it mean the control of only some of them? If so, which ones?

For the purposes of this paper, the term "centralization" will have the following connotation: a union will be considered centralized when the national constitution (and/or by-laws) sets up the regulations concerning at least two of the three following basic elements of "local" jurisdiction: (1) policy-content and policy-procedure; (2) the judicial process; (3) local finances, rights and obligations of local officers and members, and interrelationships between locals (and other subordinate groups). Two assumptions made in this definition need comment. (*a*) It is assumed that national control stems from constitutional provisions only. In reality, of course, this control can stem from a variety of sources in addition to the constitution (agreements, traditions etc.). But since this paper is concerned with the purely formal aspects of trade-union government, such an assumption is valid. (*b*) Equal weight has been attached to each of the basic elements listed. This is definitely an "arbitrary" assumption, but to attach varying weights to these elements would probably involve equally arbitrary assumptions. What criteria could one use to determine, in a concrete and ascertainable way, which elements are of greatest importance? On the basis of the above definition it was found that there are in this country forty-one unions that are still decentralized. The significant fact about these unions is that they are all "small." (This does not mean, of course, that every "small" union is decentralized.) The size factor is not a "cause" of decentralization, but in some cases it may well be a *symptom* of decentralization. For instance, a union may be small because it is new, and because it is new it is decentralized. Similarly, a union may be small because, although old, it is stagnant, and because it is stagnant it is decentralized. But all this is strictly wihtin the realm of pure hypothesis.

body politic. These sociological consequences, completely overlooked by economists,[5] may well affect the very foundation of trade-unionism in this country. The centralization of the "purely governmental" aspects of the trade-union operating machinery is probably of little consequence, sociologically speaking. Thus, for example, when local dues are set by the national office, rather than by the local itself, it probably has little effect on the vitality of the organization. The centralization of "policy control" is another matter. At present, one of the few issues that arouse vital interest in union affairs on the local level — as indicated by attendance at local meetings — is the discussion of local contract negotiations with employers. Now, if this function is taken away from the local and vested in the national,[6] the very vitality of the local membership may well be affected.[7] This becomes particularly evident when one realizes that ". . . local unions with the highest percentage of attendance at meetings have the lowest amount of unrest, dissatisfaction and complaints. In locals where everyone attends the meetings, where all assume their share of the responsibility, where all members are working together to make the local active and on its toes, little or no trouble occurs."[8]

5. Largely, we suppose, because economists — as J. M. Clark has pointed out — do not pay sufficient attention to the socio-political basis of many economic transactions. (See Clark, J. M., "Educational Functions of Economics After the War," American Economic Review, Supplement, March, 1944, pp. 59–60.)

6. It should be noted that when a contract is negotiated on a national basis, local interest in the negotiations may perhaps still be retained by means of the preliminary discussions of the demands to be submitted to the employers, and the final approval of the contract (assuming the conferees do not have full power to make a settlement on their own.) But whether interest thus generated would be as strong as that elicited in local negotiations is a question which cannot be answered until further exploration has been made into the operational mechanisms of union government. (The actual condition, in reality, will be substantially influenced by the precise method utilized by any given union in initiating and consummating national negotiations.)

It should also be noted that in the case of some national agreements (in the soft coal industry, for example) the precise details of the contract, as they affect different localities, are left to the various subordinate organizations bargaining with the employers within their jurisdiction. This again is a method of retaining interest in union affairs on the local level.

7. In this context it is pertinent to quote an observer of the British trade-union movement. He says: "Whether the union is a craft, industrial or general union, the motivating force is the local chapter. This explains the democratic character of the British trade unionism, that has no room for the union boss." (Williams, A. W., "Unions in Britain," Mill and Factory, September 1944, p. 274.)

8. International Brotherhood of Paper Makers, Labor Unrest and Dis-

It is probably feasible to attain the economic results ascribable to national agreements without relegating the local to the background.[9] It is hardly likely, however, that unions will do this. The trend has been toward national agreements (or at least national negotiations for basic points of the agreement), and despite obstacles that might thwart such a trend,[1] it will probably continue to grow. The important point, therefore, is the development of new outlets for the interests of union members at the local level, to compensate for the decline in interest which may well result from the centralization of the locus of authority over wage issues. What these new outlets will be, if they should develop,[2] the writer does not know. What does seem to be probable is that, unless they are developed, the American trade union may find it very difficult to maintain its operations on a "democratic" basis; for without an active interest on the part of the rank and file, there can be no "vital democracy" in any social group.

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satisfaction. (Report of the Study Made by the Special Research Committee, June 15, 1944, p. 32.)

9. See the writer's article on, "The Theory of Union Wage Rigidity," this Journal, August, 1943, pp. 633–636.

1. See above p. 88, note 7.

2. It has been suggested to the writer that the handling of grievances on a local basis may well develop new outlets of interest to compensate for the decline in interest generated by the centralization of the locus of authority over wage issues. This may well be true, but several obstacles can be foreseen by the writer. In the first place, in most unions that have developed a workable grievance machinery in their contracts, the national office usually steps into the grievance procedure at one stage or another. In the second place, and aside from the first factor, there is the question whether the grievance procedure can generate as much *group* interest as the negotiation of a new contract affecting *every* member of the subordinate organization in question. After all, the handling of a grievance (either as regards the interpretation of a clause in the contract or the settling of a problem not covered — or only inadequately covered — by the contract) leaves a direct impact on, and therefore generates interest in, only a *portion* of the union. (Cf. Railway Conductor, XLV [January 1929], p. 28.)

The only ground on which a case can be made out for the thesis that grievance procedure will generate group interest in the local is that some of the grievances — e.g. the settlement of disputes arising out of the fact that the contract does not cover the problem in question — will affect the local member ship *as a whole* and will, therefore, call forth interest and "large" attendance at those meetings dealing with such grievances. Even this approach, however, raises the question of how frequently such grievances arise. Only further inductive study can provide an answer.

POSTWAR EXCHANGE-RATE PARITIES[1]

SUMMARY

Experience after the first World War, 113. — I. Two helpful new concepts: general equilibrium, 115; price disparity, 116. — II. The Belgian devaluation of 1935: the problem posed, 117; the index of price disparity, 118; internal disequilibrium, 122; choice of the new rate, 123. — III. The price-disparity approach, 124. — Significance of cost-of-living index, 125. — Alternative measures of price disparity, 127. — A more sensitive index needed, 127. — Problems of comparability, 128 — Key-country indices, 129. — IV. Comparison with purchasing power parity, 131. — Definition of the equilibrium rate, 132. — Relation to state controls, 134. — Conclusion, 135.

When the nations of the world attempted to stabilize the gold values of their currencies after the first World War, they found themselves working under a double handicap. In the first place, the concept of international economic equilibrium was not very clearly grasped in the 'twenties. Contemporary attempts to explain the theory of exchange relationships were dominated by the doctrine of purchasing power parity. This theory, it is true, did state the central problem with reasonable clarity by raising the question of how to determine the rate of exchange appropriate to the equilibrium of the balance of payments of a particular country. Unfortunately, however, as expounded by Cassel it relied on an over-simplified concept of the nature of price relationships; and in any case there is little evidence that the monetary authorities of the time made much use of the theory in their search for new parities. The second handicap was the failure in 1919 to set up an effective organization for international economic coöperation — a failure too obvious to require comment.

In retrospect, the results of these two handicaps are quite apparent. Working without any effective basis for international collaboration, the monetary authorities of the various countries

1. Several persons have read the original manuscript of this article and offered valuable suggestions for its improvement. I would like to express my appreciation to Raymond T. Bye, Alvin Hansen, Robert Triffin and John H. Williams for their interest and helpful suggestions. I am particularly indebted to Professor L. H. Dupriez of the University of Louvain, who has stimulated and guided my interest in Belgian economic affairs during and after my tenure as a Fellow of the Belgian American Educational Foundation. A grant from the Council on Research of the University of Colorado in 1945 aided substantially in the preparation of this paper.

tended to think and act in unilateral and nationalistic terms. Lacking any very effective tools of analysis, they seized upon superficial and ephemeral criteria in choosing a new par of exchange. Great Britain, for example, was motivated largely by the consciousness of her international financial leadership and by the desire to maintain the prestige of the pound. Consequently she returned to the prewar gold value of sterling. She seems not to have realized at the time that she was overvaluing her currency and thus setting in motion a whole series of impulses toward domestic and international disequilibrium. Belgium, in contrast, undervalued her currency in 1926 in an effort to minimize the tasks of internal budgetary stabilization, and at the same time secure the advantages of a *prime d'exportation* for her large export industry. This policy also became a source of disequilibrium, both at home and abroad. These examples are typical of the almost universal failure to select proper equilibrium rates of exchange — a failure which contributed greatly to the international economic disorganization of the inter-war period.

Fortunately it seems likely today that some of the mistakes of this earlier attempt at reconstruction can be avoided after World War II. The idea of international economic coöperation has gained wide acceptance, and the Bretton Woods proposals for an International Monetary Fund and an International Bank set up the machinery for the maintenance of exchange stability and economic collaboration. In recent years, the theory of international economic relationships has been broadened and clarified; and in at least one case a practical experiment in the determination of the equilibrium rate of exchange has met with remarkable success.

In this paper an attempt will be made to review briefly the recent developments in economic theory which bear on the problems of international economic relationships and exchange stabilization, and to show how these developments were used by Belgian monetary experts in their effort to determine the proper equilibrium rate of exchange in the Belgian devaluation of 1935. The Belgian experience, while not unique, was well organized and well executed, and it can serve usefully as a guide to contemporary attempts to work out a theory and technique for postwar exchange determination. A third and major purpose of the paper will be to outline a procedure for the determination of par rates of exchange which will

make it possible to select exchange rates consistent with international economic equilibrium.

I

Two concepts among recent theoretical developments are particularly helpful in clarifying the theory of exchange rates: the theory of general equilibrium, and the concept of price disparity. The theory of general equilibrium postulates that all prices within a price system are interrelated and interdependent.[2] Consequently, when a given individual price in a price system moves in response to changes in demand and supply, its motion sets up repercussions in other individual prices. Some of these repercussions may be violent, others hardly noticeable. All prices, however, are affected.

The emphasis on general interdependence in this theory gives special importance to the definition of a price system. A number of different definitions are possible. For some purposes, the price system can be defined as coextensive with a national economy. Alternately it can be thought of as embracing the entire world economy. In the latter case all prices in the entire world system must be regarded as interdependent and related to each other. When looked at from this point of view, old relationships among prices or groups of prices appear in a different light. The traditional distinction between "domestic" and "international" prices become of secondary importance, and relationships of cost and price, sensitivity and insensitivity, degree of fabrication, etc. become more important, as the Belgian experience well illustrates.

The Belgian experience, in common with other interwar experiences, also serves to emphasize the fact that the exchange rate is no ordinary price. It is a "key" price in the universe of prices. An alteration in the exchange rate can set in motion multitudes of commodity price changes and stimulate widespread readjustments in production and trade. For this reason the determination of the equilibrium rate of exchange is a matter of primary importance.

The theory of general equilibrium is, of course, more than a theory of prices. The concept of a world price system, in which all prices are interdependent, leads naturally to the parallel concept of the interdependence of the economic forces which determine

2. The theory of general equilibrium is not new, of course, although it has experienced a notable revival. See particularly Triffin, Monopolistic Competition and General Equilibrium Theory, Cambridge, 1940.

prices. The concept of a general equilibrium of *prices* suggests the companion idea of a general equilibrium of *economic forces* in the world-wide economic system. The Belgians made use of this idea in the analysis of their problem. Specifically they were interested in knowing the extent to which the disequilibrium of the Belgian economy could be traced directly to economic forces external to Belgium, and the extent to which the disorder was the result of internal unbalance. In terms of price considerations, they wanted to discover the particular economic forces, foreign and domestic, which were creating distortions in the Belgian price system. Moreover, it was not only important to isolate these forces, it was also necessary to determine the relative amount of influence which each factor was exercising. Such reasoning is based on the acceptance of the hypothesis of general equilibrium, and places particular emphasis on the idea that the economic forces and prices in the system, while interdependent, vary greatly in importance.

The second recently developed concept mentioned above — the concept of "price disparity" — is perhaps best expounded in the works of F. C. Mills, notably in his Prices in Recession and Recovery.[3] Mills defines price disparity as follows:

> We define as a price disparity the condition prevailing after a shift in price relations to which there has not been complete adaptation among elements of the economic system at large. We take the term adaptation, in the above definition, to mean such adjustment in respect of the volume or character of production, allocation of manpower, investment of capital, distribution of income, or disposition of other elements of economic life as may be necessary to a working balance of economic elements, with effective utilization of available productive resources.[4]

The concept of price disparity is closely related to the concept of general equilibrium. Mills, of course, recognizes this. In his own words:

> The use of the term "price disparities" rests upon an implicit assumption that the activities of a modern economy may be viewed as the working of a closely-knit system of interdependent parts. The price system, a coherent body of related price quotations on commodities, services and disposable values of all sorts, is one element of this general structure. The operations of the economic system, in the allocation of productive factors, in the production and distribution of goods and services, in the apportionment of income, are conditioned by the relations among the working parts of the system as a whole and, more

3. Mills, Frederick C., Prices in Recession and Recovery. The index lists references to the term scattered through the entire work.

4. Mills, op. cit., p. 34.

particularly, by the relations among quoted prices of the factors of production and of other commodities.[5]

The relevance of this concept of price disparity to the problems of international price and exchange relationships is readily apparent. Equilibrium and economic stability require the absence of unduly severe or prolonged price disparities. Undervaluation or overvaluation of the currency immediately creates disparities and forces prices and economic activities in the direction of a new equilibrium. It follows that it is of the utmost importance that postwar exchange rates be chosen which will eliminate abnormal, war-created, international price disparities and at the same time avoid the creation of new ones. Such rates will facilitate the restoration of international equilibrium after the war It seems highly desirable that the process of selecting new exchange parities begin as soon as possible. The early choice of a number of equilibrium rates would reduce the necessity for later revisions and also reduce the need for prolonged and extensive direct control over exchange operations in the transition period. It is recognized, of course, that proper rates cannot be arrived at, in most cases, early in the postwar transition. In fact, in many countries there probably will be at least two rates — a transition period rate and later a more nearly "permanent" equilibrium rate. With this in mind, the provisions in the Fund Agreement for changes in par values quite correctly permit flexibility in the making of adjustments to changing conditions.

In any case, success in choosing exchange parities consistent with economic equilibrium will depend upon the accuracy with which economists can catalogue and evaluate the factors bearing upon the problem and upon the technical skill which they can bring to the task of the quantitative measurement of such factors. The Belgian devaluation of 1935 is noteworthy because of the attempt that was made to define the equilibrium rate of exchange in quantitative terms. The techniques employed in this experiment can be most useful in the determination of exchange rates in the postwar period.

II

The Belgian problem grew directly out of the depreciation of sterling after 1931. The immediate effect of this depreciation

5. Mills, op. cit., p. 33.

was to create a disparity in prices between Belgium and Great Britain. Belgian prices rose in terms of sterling and English prices fell in terms of francs. There was, of course, an immediate and continuing tendency through the ordinary action of demand and supply to adjust prices in the two countries to the new exchange situation, and thereby to eliminate the disparity and restore equilibrium. This effort was ineffective, particularly since the depreciation of sterling continued by successive stages. Ultimately the Belgians chose to resort to the devaluation of their own currency in order to eliminate the price disparities between the two economies, and at the same time eliminate the internal price disparities which had developed within the Belgian economy as a result of attempts to adjust to the external situation through the adaptation of internal prices.

Thus, the problem was posed. What are the significant price disparities both external and internal? How can they be measured? What new par rate of exchange should be chosen in order to eliminate the disparities and achieve internal and external equilibrium?

The question of the method of measuring price disparity is most easily answered.[6] For this purpose the Belgian authorities made extensive use of the index of price disparity. The basis for their calculations was a disparity index derived from the English and Belgian cost-of-living indices. The formula used was the simple, and now familiar: $\frac{U_0B_1X}{U_1B_0Y}$, where

X = Value of the pound in francs in terms of gold.

Y = Three months moving average of sterling exchange in Brussels.

6. In this brief account no attempt will be made to trace the chronological sequence of the various steps in the evolution of the Belgian ideas. A more detailed record can be derived from the following sources:

a. Triffin, R., "La Théorie de la Surévaluation Monétaire et la Dévaluation Belge." Bulletin de l'Institut de Recherches Economiques (Louvain), IX Annee, No. 1, pp. 19–52 (1937).

b. Dupriez, Leon H., "La Conjoncture Economique de la Belgique et du Luxembourg." Bulletin de l'Institut (quarterly articles), 1930–39.

c. Bulletin d'Information, Banque Nationale de Belgique, XI Année, Vol. II, No. 8. "L'évolution des prix et des salaires en Grande-Bretagne et en Belgique," XII Année, Vol. II, No. 4. "L'évolution des prix en France et en Belgique.

d. Loi du 30 Mars 1935 — Rapport Presenté aux Chambres Legislatives sur l'execution de cette loi.

U_0U_1 = Cost-of-living index in the United Kingdom in the base year and given month.

B_0B_1 = Cost-of-living index in Belgium in base year and given month.

Somewhat later a second index of external disparity was developed. In this index domestic cost-of-living indices based on 1930 were converted into gold prices, so that the formula read:[7]

$$100\left\{\frac{\text{British (gold) cost-of-living index}}{\text{Belgian (gold) cost-of-living index}}-1\right\}=\begin{array}{c}\text{index of price}\\ \text{disparity}\end{array}$$

A negative value for such an index indicates a disparity unfavorable to Belgium, i.e. a relative failure of Belgian prices to adapt to changing conditions. The movements of this index from 1931 to 1936 are shown in Figure I.

Having adopted the hypothesis that price distortions are a cause of economic disequilibrium as well as symptoms of more fundamental disorders, and having devised a method for measuring these distortions, the Belgian experts next were called upon to select those price disparities which were the most significant indicators of the nature and extent of the economic disequilibrium of their country. The choice of cost-of-living indices for use in calculating external disparities was based on the belief that the degree of adaptation of prices to changing conditions could be seen most significantly in the behavior of the rigid, slowly adaptable elements of the price structure. As Triffin puts it, "The Belgian index of the cost of living, being representative of the level attained by the most rigid group of prices, should be compared with an index of prices already in a position of equilibrium. The official calculations utilized the British cost-of-living index for that purpose. England normally is the best customer for our exporters, and at the same time their chief competitor; she appears in every way to be the country which best characterizes the international influences to which our prices are exposed. . . . It is not surprising, therefore, that Great Britain was chosen as the basis for comparisons in the Belgian attempt to adapt its prices to the new international conditions which had resulted from the devaluation of sterling."[8] Thus, by this process the extent of the Belgian departure from equilibrium could be measured by comparing maladjusted Belgian prices with

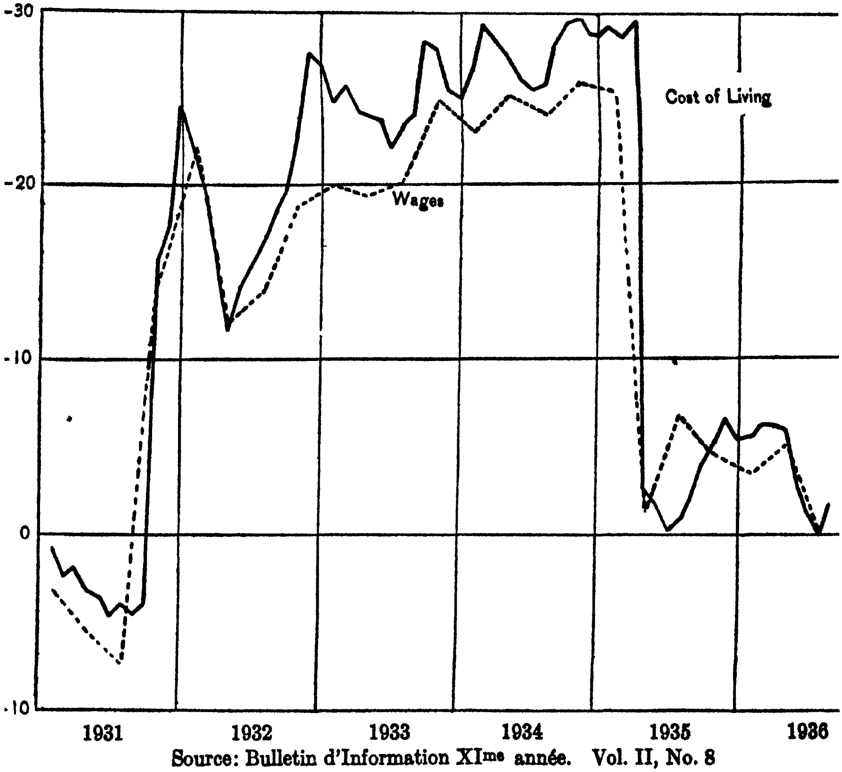
7. Bulletin d'Information, Banque National, XIème Année, Vol. II, No. 8.

8. Triffin, op. cit., pp. 45–46.

FIGURE I

INDICES OF PRICE DISPARITIES: ENGLAND / BELGIUM

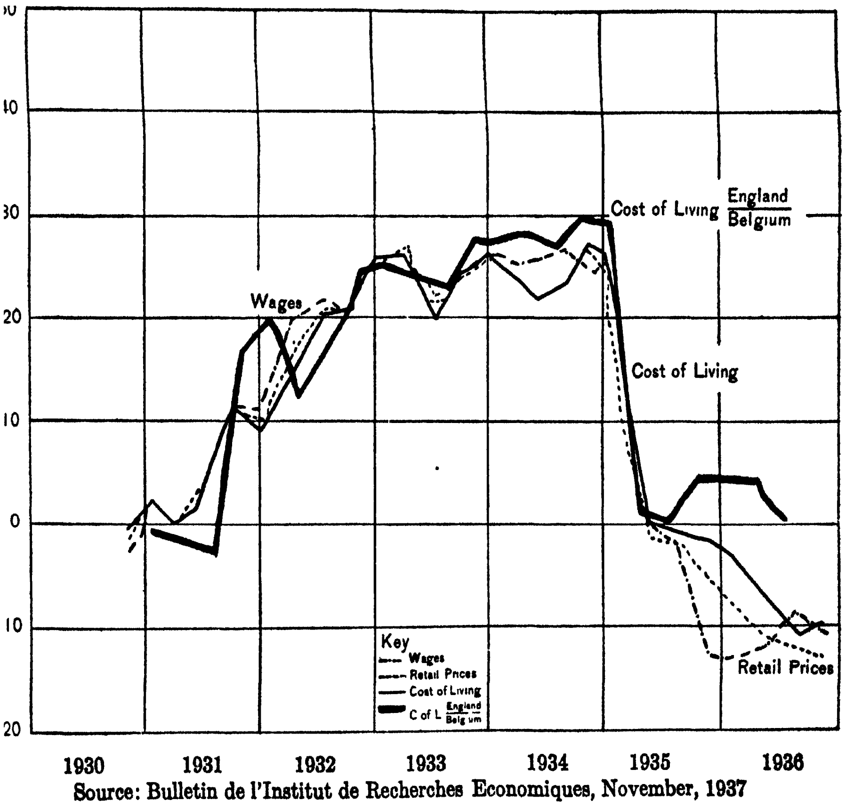
1931–1936



Source: Bulletin d'Information XIme année. Vol. II, No. 8

1930 = 100

FIGURE II
INTERNAL PRICE DISPARITIES
1930–1936



Source: Bulletin de l'Institut de Recherches Economiques, November, 1937

ENGLAND/BELGIUM 1930 = 100 October 1930–September 1931 = 100

British prices which already had become adjusted to the depreciated value of the pound.

In much the same way the internal disequilibrium within the Belgian economy could be measured by comparing adjusted prices with those not yet adjusted. Three such comparisons are shown in Figure II in the form of internal disparity indices. Belgian wholesale prices of industrial raw materials are compared in turn with retail prices, cost of living, and wage rates, i.e. each of the curves is a ratio between the designated price series and wholesale prices. The raw materials index used in the internal disparity indices is composed of prices in Belgium of standardized commodities bought and sold on organized markets. It represents a group of Belgian prices flexible in character and easily adaptable to changing economic conditions. The indices of retail prices, wages, and living costs, on the other hand, reflect predominantly internal pricing processes which are relatively insensitive. In this way a quantitative expression of the amount of price distortion within the economy may be obtained.

From the point of view of the exchange rate problem, the importance of the index of internal disparity is that it can be used to give further precision and clarity to the measurement of the external disparity. A comparison of the external disparity with the internal disparity makes it possible to estimate the degree to which external factors are the cause of disequilibrium, and to separate external causation from purely internal sources of disequilibrium.

A glance at Figure II shows that in each of the three series which represent Belgian internal price relationships a serious and growing distortion between flexible and inflexible prices developed from 1931 to 1935. The degree of distortion, moreover, closely followed the divergence between Belgian and English prices, as measured by the Belgian-English cost-of-living disparity index. Thus during this period flexible internal prices in Belgium were adjusting to the devaluation of sterling, while inflexible internal prices failed to do so.

The distinction between internal and external causes of disequilibrium is a necessary prerequisite for effective use of currency devaluation as a means of restoring equilibrium. External price distortions can be influenced immediately and directly by a currency revaluation, while internal distortions are affected only

indirectly by this process. The proper isolation and separate measurement of these two types of disparity make it much easier to decide whether revaluation is an appropriate policy, and to determine the extent to which a given rate of revaluation will affect (*a*) the external and (*b*) the internal price disequilibrium.

In Belgium in 1935 the internal disequilibrium was largely the result of external forces. Consequently, as previously mentioned, the movements of the indices of internal disparity followed very closely the Belgian-English index of external disparity. The common source of the causes of disparity made the determination of the rate of devaluation a relatively easy matter; and devaluation was a particularly effective remedy for the Belgian economic crisis. Under such circumstances the external disparity index alone proved to be an adequate criterion for the selection of a new par of exchange. Actually, the available evidence seems to show that the Belgian authorities did depend mainly upon the external disparity index in selecting a rate of devaluation, and used the internal disparity indices only in a supplementary way. In the postwar period, however, such a situation is unlikely to repeat itself in Belgium or elsewhere. Consequently, internal disparities will be of major importance in decisions involving exchange revaluation.

The process of reasoning which dictated the choice of the new rate of exchange was as follows. During the period just preceding the devaluation, the original external disparity index, which used 1928 for a base, stood at 160.[9] However, 1928 was not considered a period of equilibrium, and an adjustment of 20 per cent for the disparity existing in 1928 was allowed for. Thus the devaluation indicated was 160/120. This meant that the Belgian currency was overvalued by one-third in relation to English prices and exchange. Such an overvaluation could be adjusted for by a 25 per cent reduction in the gold content of the franc, causing the index to fall to 120 — the assumed position of equilibrium. There was still another factor to consider. The Belgian cost-of-living index was expected to rise at once after devaluation, because of the effect of the rise in imported food prices. A margin of three per cent was allowed for this contingency, and the devaluation rate of 28 per cent decided upon.

The second external disparity index, which uses 1930 — the

9. This index is not reproduced in the present article. The second index is shown in Figure I.

year preceding the original devaluation of sterling — as a base, also indicated a devaluation of 28 to 29 per cent. The internal disparity indices also showed a similar degree of disparity early in 1935 — somewhere around 25–26 per cent. Some authorities have concluded that in view of the somewhat smaller internal disparities, a 25 per cent devaluation would have been adequate, and that the three per cent margin of safety was unnecessary.

In an immediate sense, the Belgian devaluation was a striking success. The disparity between Belgium and Great Britain was eliminated. (See charts.) A vigorous, multisided domestic program made possible a cyclical up-swing within Belgium, and economic conditions improved. In the longer run the policy also seems to have been successful. From the devaluation to the outbreak of the war, the index of disparity between Belgium and Great Britain remained in equilibrium, fluctuating only two or three points from the value it achieved as a result of the devaluation. It does not seem too much to say that the devaluation and the accompanying recovery program succeeded in restoring the Belgian economy to a position of equilibrium in the world economy, and that the techniques of exchange-rate determination used by the Belgian authorities made it possible for them to choose a new rate of exchange which was consistent with that equilibrium.[1]

III

Let us turn now to the application of the foregoing discussion to the problem of postwar exchange rates. Recent developments in general equilibrium theory and in the concept of price disparity, together with the Belgian experience with devaluation in 1935, point the way toward the development of a method of attack on

1. Critics of the original manuscript objected to the evaluations expressed in this sentence. In the light of their comments, two qualifications seem justified. First, the Belgian devaluation succeeded in directly restoring that economy to a position of equilibrium with England and the Sterling Bloc. The equilibrium with the world economy was secured via the Sterling Bloc, rather than directly. Second, it can be agreed that later events, such as the French devaluation, created disparities between the Belgian economy and others. Nevertheless, the equilibrium with the dominant British economy continued in effect, even in the face of widespread disequilibrium elsewhere in the world. Also it may be noted that an opportune devaluation of twenty-eight per cent in Belgium in March, 1935, facilitated an immediate recovery in that country, whereas the prolonged internal and external resistance to devaluation in France resulted in continued disequilibrium in that country and ultimately led to a greater devaluation than had been necessary in Belgium.

the exchange rate problem which may be called the "price-disparity method." This method involves the calculation of appropriate internal and external indices of price disparity for the various countries of the world. These indices may be used to detect and measure the development of distortions in the price structure of a given economy, and in the international economy as well. They also may be used to distinguish between disparities which originate within a given economy and those which develop as a result of forces external to that economy. Once this is done, it is possible to define quantitatively the equilibrium rate of exchange for any specified economy and to establish a set of exchange rates for all countries roughly approximate to international equilibrium.

The price-disparity approach to exchange rate determination is by no means a simple or perfect instrument. Like other economic tools, it cannot be used in an arbitrary manner. Its use must be accompanied by further refinements of data, and in all cases supplemented by a careful qualitative evaluation of the economic forces at work in a given situation. In the Belgian experiment the technique was used in a tentative and experimental manner; yet the Belgian experts did ask the right questions, and from their experience several worth-while observations may be developed which should aid in perfecting and applying the price-disparity technique in the postwar period.

1. A disparity index derived from indices of the cost of living offers a significant measure of external price disparity.

In comparison with other price series, a cost-of-living index is relatively slow to change, is relatively rigid and inflexible. The divergence between two such indices for two different countries affords an indication of the relative extent to which the internal price structures of the two countries have become adapted to a changing international situation. If, as in the case of Belgium and Britain in 1935, one country is regarded as having made a successful adaptation to the new situation, then the disparity between the two indices of cost of living is a measure of the failure of the other country to adapt. A cost-of-living disparity index therefore is useful in determining the conditions of internal and external price equilibrium for a given country vis-à-vis other countries.

It is possible to go even further in interpreting the significance of a cost-of-living disparity index. A familiar result of disequilibrium in a national economy is the failure of that economy to bring

its costs of production into line with the prices it gets for its goods — on either domestic or international markets. Can movements of cost-of-living indices throw any light on the problem of cost-price relationships? Some experts think they can. Both Strakosh[2] and Mills[3] have compared the disparity between the cost-of-living index and the wholesale price index for a given country with similar disparities in other countries, in order to throw some light on the relative adaptation in various countries of the cost-price differential. Both are careful to emphasize the approximate and relative character of such comparisons, pointing out that no measure of absolute cost and price changes is implied. Strakosh holds the more positive view. After discussing the limitations of the index of cost of living as an indicator of costs, he concludes that "the movement of the cost-of-living index may be regarded as a pretty reliable indicator of the trend of the general cost of production."[4]

No doubt there are many who will hesitate to accept this judgment. The Belgian authorities have avoided such an interpretation of the cost-of-living index — at least in their public statements. The complexity and diversity of various elements of cost from industry to industry and firm to firm are frequently cited as an argument against *any* attempt to speak of a general level of costs. Yet the concept of an over-all level of costs is useful, and the general cost-price situation of one country as compared with another is an important factor in international equilibrium. As Williams has said, "After this war (also) the first major task will be in general to adapt the exchange rates to the price levels rather than the other way round. But for the continuing operation of the system, once reasonably stable currency relations have been found, cost-price adjustments must also play a part."[5] The Belgian experience suggests that for both of these purposes the cost-of-living

2. Strakosh, Sir Henry, "The Road to Recovery," The Economist, Supplement, January 5, 1935, p. 7.

3. Mills, F. C., op. cit., p. 81.

4. Strakosh, op. cit. In Figure I the Belgian-English cost-of-living disparity index is compared with a similar index based on British and Belgian wage rates. The closely related movements of these two indices seem to support the interpretation of the cost-of-living index suggested by Strakosh and Mills.

See also F. D. Graham, "Recent Movements in International Price Levels and the Doctrine of Purchasing Power Parity," Journal of the American Statistical Association, Vol. XXX, Supp., March, 1935, pp. 159–166.

5. Williams, J. H., "Post-War Monetary Plans and Other Essays," p. 34.

external disparity index can be an instrument of considerable usefulness.

2. *Several alternative measures of internal price disparity are available.*

The problem of measuring internal disparities need not detain us long. Internal disparity indices of various sorts should be calculated in order to measure the extent of internal price distortions and in order to distinguish between the internal and external causes of disequilibrium. Indices similar to the Belgian ratios of cost of living to wholesale prices, wholesale prices to retail prices, and wages to wholesale prices should be useful. Others readily suggest themselves, such as the disparity between internal agricultural and industrial prices, durable and non-durable goods, etc.

The distinction between internal and external disequilibrium will be of utmost importance under the terms of the Bretton Woods agreement. One of the general purposes of the Fund is to maintain international economic stability and to avoid economic warfare. Therefore the Fund must evaluate the soundness and legitimacy of a nation's proposal to alter its exchange rate. Such an evaluation will require a decision as to whether the existing disequilibrium is external or internal in origin; and, if external, whether or not the disequilibrium can be corrected by means of an alteration in the exchange rate. Consequently, a series of internal disparity indices for each of many different countries should be a part of the current basic data in the files of the Monetary Fund's research staff.

3. *A new and more sensitive index of external price disparity is needed.*

It is clearly the purpose of the International Monetary Fund to maintain exchange stability in the postwar world, and as far as possible to forestall the development of disequilibrium in the international economy. In order to gain these ends, incipient disequilibrium must be spotted as quickly as it develops and while it is still in the early stages. For this purpose a disparity index which is very sensitive to changes in international economic relationships is needed. Such an index can be constructed from the prices of internationally exchanged commodities. The function of an "index of international commodity price disparity" would be to measure as accurately as possible the lack of adaptation in two national economies of those prices which are closely related to each other by international competition. Hence the prices used in the index

should be prices of finished goods which are important in international trade. The index for each country should include the gold prices of finished goods which are:

1. Exported from A to B.
2. Exported from B to A.
3. Exported by A and B to other countries.
4. Exported from other countries to A and B.

In cases 3 and 4, involving trade with third countries, the prices quoted should be those in A and B, rather than in the countries of origin. It will be necessary to eliminate from this preliminary list such prices as are identical in the two markets because of immediate adaptation. It is doubtful if prices which exhibit a constant variation between the two countries should be included. A simple average of relatives may be used, and the number of items need not be large. Such an index should provide a sensitive measure of the disturbance of equilibrium between the price systems of the two countries, and make it possible to observe the development of such disequilibrium from its earliest stages. In addition, the development of a disparity in the index of internationally traded commodities would provide an early indication of price and cost distortions within the two countries under comparison. In doing so it would serve as a useful supplement to the cost-of-living external disparity index.[6]

4. *Problems of the comparability of the indices used in calculating disparity, and of the choice of a base year, are not insuperable obstacles to the use of disparity indices.*

Whenever the movements of two price indices are compared, the question inevitably arises whether the two indices measure the same thing and are comparable. Very often comparisons of purchasing power parity in the 'twenties were meaningless because the indices used were not really comparable. The Belgian experts were aware of this difficulty, and they have been careful to examine the indices available with the problem of comparability in mind. Where necessary they have constructed entirely new indices —

6. This suggestion for an index of international commodity price disparity was developed in conversation by L. H. Dupriez in 1937. In Professor Dupriez's opinion, the cost-of-living index of disparity is the fundamental one of the series of disparity indices. See p. 119 above.

A related suggestion — that of an index of export prices as a measure of currency overvaluation — has been advanced by Harris, Explorations in Economics, p. 41.

indices which include similar and comparable commodity items for each country involved.[7] Their experience shows that comparable indices can be found or constructed. No doubt the research staff of the Monetary Fund eventually would be able to construct a series of comparable indices for its member countries.

The choice of a suitable base for the calculation of a disparity index is a problem of importance. Ideally the base year should represent a position of equilibrium, so that the disparity shown by the index is a measure of the degree of departure from that equilibrium. It is indeed difficult to select such a base year; and even if one were to be found, dynamic factors in the economy may require a move to a new position of equilibrium, rather than a return to the old. Probably the best that can be done is to select a base which on quantitative and qualitative grounds seems to offer a close approximation of equilibrium for the country in question. Such base periods certainly can be found. Of course, each country would tend to choose a base favorable to its particular circumstances, and thus an element of bargaining would be introduced into what ought to be a purely objective situation. Nevertheless, the choice of a suitable base period for a series of disparity indices ought not to be beyond the competence of the research and policy staff which the Monetary Fund can be expected to possess.

5. *For a given country disparity indices relative to one or two "key" countries should be adequate for the calculation of the equilibrium rate of exchange.*

A noteworthy characteristic of the Belgian devaluation is that an index of disparity with only one country — Great Britain — was used in the search for equilibrium. This procedure has been criticized. The critics point out that the concept of general equilibrium would require that the disparity of a given country be calculated with reference to all other countries. (More accurately, the equilibrium position of each and every country should be determined simultaneously in a single, multi-variable equation.)

The Belgian experts did not find it difficult to meet this argument. They pointed out that the Belgian economy is closely linked to that of Britain — even more closely than to France or Germany. They also argued, in effect, that general equilibrium theory recognizes differences in the degree of interdependence among various prices. Consequently, the prices of a given country

7. Bulletin d'Information, Banque Nationale, loc. cit.

should be as nearly as possible in equilibrium with "near" countries, even at the expense of some disparity with "far" countries. In 1935, moreover, correction of the English-Belgian disparity almost automatically produced a major correction of the disparities between Belgian prices and prices in other countries of the Sterling Bloc. Finally, the new disparities created by the devaluation vis-à-vis the Gold Bloc countries could be regarded as regrettable but not determinative, in view of the obvious instability of the Gold Bloc in 1935.

The Belgian experience points the way to a compromise in the current debate over the "key country" issue. In essence the economic issue seems to be as follows. Professor Williams holds[8] that the key currencies — those which are used as international means of payment, which today means the dollar and to some extent the pound — are what should be dealt with. Stabilize them and hold them stable by maintaining the internal equilibrium of the key countries, and the other currencies will fall into line. This "would be the best foundation for monetary and economic stability throughout the world."[9]

Professor Williams' critics have at least one element in common: all base their opposition on the implicit acceptance of general equilibrium theory. This origin of the criticisms is perhaps most apparent in White's recent article, when he says, "The fact is that we are *directly* interested in the exchange rate of *all* countries, because *all* countries are either our customers, competitors, or suppliers."[1] Rasminsky also has the general equilibrium concept in mind, when he argues that the "importance of an exchange rate be measured by reference to particular commodities."[2] Thus, to Belgium, a large importer of Argentine wheat, the Argentine peso is a "key currency."

At first glance Professor Williams' position does not seem to be consistent with general equilibrium theory, but in the light of the Belgian experience he has the better of the argument. True, the Argentine peso is important to Belgium: she imports Argentine wheat, holds Argentine investments, and exports manufactures to that country. Nevertheless, Britain is vastly more important to

8. Foreign Affairs, October, 1944, p. 49.
9. Foreign Affairs, July, 1943, p. 655.
1. Foreign Affairs, January, 1945, p. 206. The italics are mine.
2. Foreign Affairs, July, 1944.

Belgium than Argentina is. An equilibrium exchange rate vis-à-vis the "key country," Britain, is so important that something other than a precise equilibrium rate with Argentine can be tolerated. The point is that while Belgium is indeed "directly interested in the exchange rate of all countries," her interest is not equally intense in every case. In some she is greatly interested, in others only remotely concerned. Thus, as a matter of practical policy, exchange rate stabilization can be undertaken mainly with reference to the important "near" or "key" countries.

But Professor Williams goes too far. He seems to hold the view that the dollar and the pound are the *only* key currencies. This position will not bear examination. The correct view is that for any given country there is a graduated differentiation in the importance of all currencies; and that for each country the order of differentiation is distinct from that of other countries.[3]

Two conclusions follow from this proposition. In dealing with the technical problem of exchange rate determination it is logical and feasible, as the Belgian experience demonstrates, to calculate the par of exchange mainly with reference to one or two "key" countries. Second, since there are a number of key countries in the international economy, it follows that there will be a tendency for countries to arrange themselves in groups, each group of countries clustering around its own key country. This hypothesis appears to offer an acceptable compromise in the current dispute. For the idea that there is a single key country it substitutes the idea of a number of key countries. For a rigid interpretation of the nature of general interdependence it substitutes the idea that there are degrees of interdependence in the international economy. Thus it embraces a practical and meaningful application of the concept of the key country as a center of stabilizing influence, and at the same time retains an acceptable version of the principle of the interdependence of prices in a world price system.

IV

A good many objections to the method advocated in the preceding pages are conceivable. I shall attempt here to deal only with the three which seem most likely to be raised. The first may be

3. The phrase "graduated differentiation" is taken from E. M. Bernstein, "A Practical International Monetary Policy," American Economic Review, December, 1944, p. 783.

couched in the form of a question. "Is not the Belgian technique simply the old, discredited purchasing power parity theory in a new dress?" It can be conceded at once that the origins of the Belgian technique are to be found in the purchasing power parity doctrine. The original disparity index, which dates back to 1928, was called an "index of purchasing power parity," and frequent references to the doctrine and to Cassel, its leading exponent, are to be found in the Belgian literature.[4]

Nevertheless, the Belgian concept is much more refined and sophisticated than the older theory. In the first place, it stresses the concept of disparity or of price distortion — a concept which has been increasingly emphasized by many economists in recent years. In the second place, it builds on the disparity concept and distinguishes between internal and external price distortions and between internal and external sources of system disequilibrium. In the third place, the emphasis upon distortions of the price system and the maladjustments of productive organization of a country focuses attention upon the vital problem of short-period disequilibrium, which Cassel ignored completely.[5] The price-disparity approach makes use of the important core of truth in the theory of purchasing power parity, but it avoids the objections raised against the old theory and offers an essentially new approach to the problem of exchange rate determination.

The second possible objection to the Belgian technique centers around the definition of the equilibrium rate of exchange. As a matter of fact, the Belgian authorities did not explicitly define their own concept of equilibrium.[6] Their approach was essentially pragmatic and was addressed to the immediate problem created by the devaluation of sterling. Nevertheless, certain assumptions about the nature of equilibrium had to be made, and others are implicit in the proposal of this paper for a price-disparity method of exchange rate determination. Since the validity of the method

4. The original index as well as the later ones first appeared in the quarterly articles on economic conjuncture written by Prof. L. H. Dupriez and published in the Bulletin de l'Institut de Recherches Economiques (Louvain).

5. "Short-period" is used here in contrast to long-run normal. For a discussion of these points see Triffin, op. cit. p. 20.

6. They were, of course, concerned with the problem, and did discuss the question of the relationship between the base year of the disparity index and "equilibrium." (See above, p. 123.)

depends upon the acceptability of its assumptions, it is desirable that the assumptions be made as explicit as possible.

First, at the risk of stating the obvious, it may be assumed that exchange rates will be operative in a postwar world economy in which the bulk of foreign trade is carried on by private agencies that buy, sell, and produce, while constantly searching for the most profitable market. These private agencies will operate within the framework of a system of state-imposed controls. The state will also fix the exchange rate in terms of gold, and will attempt to hold the rate stable with only infrequent variations. Prices, on the other hand, will be less subject to direct control and consequently more variable. Price levels in the several countries will fluctuate independently of each other, and exchange rate alterations will take place when widespread and serious divergences among national price systems develop.

In such a world, price (and cost) relationships will be of paramount importance in determining the volume and direction of world trade. Moreover, as a result of individual competition there will be a tendency for competitive forces to push the pattern of resource use in the direction of the optimum position, both in terms of the employment of resources as between countries, and in terms of the allocation of resources between foreign and domestic employments within a particular country.

In a world of this kind the equilibrium rate of exchange may be defined with reference to two criteria: the criterion of comparative advantage and the criterion of "cost-price parity."[7] An exchange rate would be considered an equilibrium rate (*a*) if it afforded no artificial advantage in international competition and consequently facilitated the "proper" balance between domestic and foreign resource utilization; and (*b*) if it were consistent with the "proper" competitive cost-price relationships, both external and internal, for the country in question.

This definition of the equilibrium rate of exchange is preferable to the balance of payments definition. Changes in the character of the balance of payments of a country are in reality but symptoms of more fundamental changes in its economy. Among these fundamentals, resource use and cost-price relationships are basic.

7. These observations are based on the remarks of Professor Hansen in his "Brief Note on 'Fundamental Disequilibrium,'" Review of Economic Statistics, Vol. XXVI, pp. 182–184, November, 1944. Professor Hansen used the term "cost structure parity" rather than "cost-price parity."

To say this is not to deny that the balance of payments is a useful guide to the measurement of international disequilibrium. Undoubtedly it serves an important purpose. However, to advocate its use as the primary determinant of equilibrium presupposes inability to find any quantitative expression for the really fundamental criteria. The acceptance of the price-disparity method invalidates this supposition, since the method's express purpose is to provide a reasonably satisfactory procedure for measuring disequilibrium and describing it in quantitative terms.[8]

The third question about the price-disparity method concerns its relation to the system of state controls imposed upon international economic intercourse. It is assumed that such controls will exist and that each country will attempt to use its controls for the purpose of maximizing its position vis-à-vis the other nations. It is assumed, further, that ultimately the more extreme of the wartime and transition controls will be modified in the direction of a freer economy. In consequence of these assumptions, two problems emerge — the problem of the meaning of the price-disparity indices under a given set of controls, and the problem of their meaning when a major shift in the degree and purpose of control takes place.

The first problem is simple enough. Given the existence of a set of controls, and given the availability of price data, disparity indices can be calculated and the equilibrium rate of exchange can be ascertained. The rate will fail to be an equilibrium rate and the economy will be unstable, only if the Government finds itself unable to enforce the controls. If the controls are operative, they become an economic fact which will be reflected in prices, just as the lack of coal is a fact which is reflected in the price structure of a nation engaged in international trade. Therefore the presence of controls does not invalidate the use of the price-disparity method.

By the same reasoning, a moderate and gradual shift in the controls would not invalidate the method. Such shifts would be reflected in the disparity indices in the same way that ordinary competitive shifts in resource use or production costs would be

8. The case for the balance of payments criterion is ably stated by Ragnar Nurkse in his "Conditions of International Monetary Equilibrium," Essays in International Finance, No. 4, Spring, 1945, Princeton University. His discussion is marked by an emphasis on the need for going behind the balance of payments data to see why the balance is shifting.

reflected. Controls are a commonplace in contemporary economic society and any realistic discussion of economic problems presupposes their existence.

If, however, a major shift in the degree or purpose of control takes place, the situation is different. Such a shift would inevitably affect prices and trade relationships, and the new equilibrium rate of exchange almost certainly would not be the same as the old one. An equilibrium rate calculated for Belgium under the conditions of the Occupation would hardly be applicable in 1946. This is the reason for not establishing fixed exchange rates immediately after the peace. Indeed, reasonable flexibility in the exchanges may be desirable for several years to come.

In conclusion, it may be emphasized again that the price-disparity method of exchange rate determination is still in the experimental stage. Its use will depend on the existence of data, much of which is not now regularly collected. Its general application may well raise problems of interpretation not encountered in the relatively simple Belgian experience in 1935. Nevertheless, the task of choosing exchange rate parities cannot be evaded. And if we are to depend on something better than blind trial and error in the process, some method of quantitative description of equilibrium must be found. The price-disparity method is a significant step in that direction.

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THE OLD-AGE RESERVE FUND IS NOT "ILLUSORY"

SUMMARY

Dr. Lutz's argument, 136. — I. Important distinctions neglected, 137. — II. Unacceptable distinctions made, 139. — III. Purpose of the fund misunderstood, 142. — IV. Separate entity of the pension program not essential to the argument, 145. — V. Taxation for liquidation of fund is not for social security, 146. — VI. Importance of upholding the Government's credit, 149. — VII. The question of accumulation must be considered on its merits, 151.

As the title suggests, these comments will be concerned exclusively with the argument presented by Dr. Harley L. Lutz in Social Security, Its Present and Future Fiscal Aspects, a study by the Research Staff of the Tax Foundation, New York. The argument may be summarized as follows:

As is pointed out below, the theory of a reserve is illusory, in that it can only serve the true purpose of a reserve by being converted into a debt held by the public. This conversion will immediately involve budgetary provision of revenue for the payment of interest, and as well, for debt retirement if and when amortization of these bonds is to be undertaken.

At that time the true character of the interest charges upon the fund will be revealed. Insofar as the reserve consists of special non-negotiable obligations, and while disbursements are less than current collections, the process of paying interest thereon is a pure bookkeeping transaction, involving no appropriation of tax receipts for the purpose. Interest accruals for the year are merely covered by a sufficient quantity of the special obligations which are added to the total principal of the fund. But when the fund assets are liquidated through conversion into a negotiable security held by the public, then the interest accrual will become an item of real cost to be met by increased taxes. This would also be true if, without liquidating the principal, it should become necessary to utilize the interest to cover disbursements in excess of current revenues.

The illusion of a reserve, representing payments already made and therefore available for future use without burden on anyone, is one outgrowth of policy. The reserve represents taxes collected and used for general purposes. Popular acceptance of these taxes is fostered by the implication that the funds are being held by someone, somewhere, for the purpose of discharging the obligation created by their collection. . . .

The so-called reserve in both the Federal Old-Age and the Federal Unemployment Compensation accounts is obviously nothing except the Government's debt to these funds. What actually is happening is: (*a*) taxes in excess of current benefit payments are being collected, (*b*) these excess receipts are borrowed from the fund and spent for general governmental purposes, and (*c*) if and when the reserve must be drawn upon through liquidation, funds

to meet the draft must be obtained by selling to the public some of the fund assets. This would result in transferring the Government's debt from the fund to the public. If the traditional policy with respect to that debt should be followed, namely, to retire it at maturity, it would therefore become necessary to levy taxes for amortization as well as for interest. Hence, the taxation whereby the reserve had been created originally would have been in vain for a second tax levy would eventually become necessary in order to provide the money for the social security payments. This second levy would be, directly, for interest and amortization of the bonds taken from the reserve. But the existence of these bonds is evidence that someone had already contributed the money to buy them, and is supposed to be proof that no further taxation would be required to pay the benefits represented by the bonds.[1]

I

Dr. Lutz's argument does not recognize, invariably, certain distinctions which should be recognized invariably, since they were established by the Social Security Act itself. The pension program is not the Government. It is an undertaking of the Government's, intended to be supported, largely, by certain taxes on payrolls and wages received, though perhaps with aid from general taxation. The Government does not spend the social security revenues, since in effect they are required to be appropriated to the Old-Age and Survivors Trust Fund; the Government spends the general tax revenues and its borrowings from the Old-Age Fund and from others. Only the Trustees can spend the sums appropriated to the fund. They can spend only for pensions. They can invest accumulated moneys in government bonds. Investment, of course, is not expenditure.

In the third quoted paragraph, the reserve is said to represent "taxes collected and used for general purposes." In the fourth paragraph, however, we read that " . . . taxes in excess of current benefit payments are being collected, these excess tax receipts are borrowed from the fund, etc." I submit that only the latter statement is correct, since it takes account, whereas the former does not, of the separate entity of the pension program, and of the borrowing and lending transactions which take place between the Government and the pension program. This does not mean, however, as I hope to show later herein, that the case against the view that the fund is "illusory" depends on insisting that the separate entity of the pension program be respected. The view that the taxes are collected and used for general purposes, and Dr. Lutz's

1. Op. cit., pp. 7–10.

finding that paying interest on the government bonds in the fund is a "pure bookkeeping transaction" are conceptions which, obviously, rest on a preference for portraying the Government's fiscal and pension affairs in a consolidated showing. It should not be more difficult to show that the fund is not "illusory" in terms which are in agreement with that preference.

Such a consolidated showing, when employed alone, leaves much to be desired, however. It will not portray the relationship between the pension program and the Government that results from the statute's requirement that the accumulated moneys be invested in government bonds. Moreover, when, speaking in terms of a consolidated showing, it is said that the social security revenues, largely, are being spent for general purposes, it is implied that these moneys are not being conserved for social security purposes; whereas when the distinction between the Government and the pension program is respected, and it is acknowledged that the Government does not spend the accumulating social security taxes, but spends its borrowings from the trust fund, and spends them exactly as it spends its borrowings from others, it will be seen that, short of distrusting government bonds, the accumulated moneys are being conserved for pensions. The difference between these two conceptions is thus very great.

It is now assumed in the social security discussion that the single alternative to larger present accumulation in the fund is a future subsidy to the program from the general fund. This proposal, it should be noticed, is founded on the distinction between the program and the Government. It is a call for aid by grant, and if it is enacted it will lien the general taxpayers in favor of the pension program.[2] Accumulation of government bonds by the fund is now liening the general taxpayers in favor of the pension program, but this lien is being created by purchase, for value paid. It seems as important to recognize the distinction between the pension program and the Government in discussing the purchased lien (i.e. the government bonds in the fund) as in discussing the lien proposed to be established by grant. The reserve fund, owing

2. The Murray amendment to the Social Security Act, enacted in February, 1944, has authorized such subsidy. The amendment (to Section 201*a*) reads: "There is also authorized to be appropriated to the trust fund such additional sums as may be required to finance the benefits and payments provided under this title." Section 201*a*, before this amendment, authorized appropriations to the fund of "sums equal to" the social security revenues.

to the fact that it consists of government bonds, is in fact itself a relationship between the pension program and the Government, and has no other being. It seems important, therefore, that the several distinctions established by the statute should invariably be recognized.

II

Dr. Lutz's argument makes certain distinctions which are unacceptable. He said: "Insofar as the reserve consists of special non-negotiable obligations, and while disbursements are less than current collections, the process of paying interest thereon is a pure bookkeeping transaction, involving no appropriations of tax receipts for the purpose. But when the fund assets are liquidated through conversion into a negotiable security held by the public, then the interest accrual will become an item of real cost to be met by increased taxes."

The first distinction proposed here is between the "special obligations" and the other government bonds owned by the fund, namely, certain general market issues. Paying the interest on the former, but not on the latter, is said to be a "pure bookkeeping transaction." The "special obligations" are employed wholly as a matter of convenience to the Treasury and the Trustees. These obligations could be exchanged for general market issues, or the general market issues could be exchanged for special obligations without the slightest effect on the character of the fund's income.

The circumstance that "interest accruals are merely covered by a sufficient quantity of the special obligations, which are added to the total principal of the fund," like the employment of the "special obligations" themselves, is a product of convenience only, having no bearing on the character of the payments so made by the Government and received by the fund. The "special obligations" bear the average rate of interest that is paid on the Government's other borrowings. Since that rate is not known in advance, it is convenient to make special appropriations of interest periodically, and these appropriations permit the Trustees to buy additional government bonds. There is no lack of substance or reality about this procedure. It is, indeed, the identical procedure that is employed by savings banks when they pay interest to depositors by adding it to the principal of their depositors' accounts; the pro-

cedure employed by the Government itself when, periodically, it increases the price at which it will redeem the war savings bonds.

When accountants encounter such phrases as "pure bookkeeping transaction" or "mere bookkeeping transaction," they look instinctively, not for one transaction, but for two transactions. Usually they will find that one transaction, a payment, has been followed so closely by another transaction, a payment in the opposite direction, that to the unwary neither payment appears to have been made or received. In such circumstances, the totality of the two transactions is likely to seem unreal.

Accounting practice does not admit of "pure bookkeeping transactions" or even "bookkeeping transactions." There are only transactions, and the need to enter a record of them in books of account. In this case, a payment of interest, a payment made for the use of money, is made by the Government to the pension fund. The sum so received by the fund may then be invested in government bonds. Here the payment will be in the opposite direction, that is to say, from the fund to the Government. To dismiss what occurs as "pure bookkeeping" is to fail to notice that two transactions between the Treasury and the Trustees have been completed.

Dr. Lutz spoke of the process of paying interest on the special obligations as "involving no appropriations of tax receipts," and of the interest accrual on these bonds, after they should be converted "into a negotiable security held by the public," as "becoming an item of real cost to be met by increased taxes." Congress, however, does not make "appropriations of tax receipts." It makes appropriations of dollars. It makes all appropriations from the general fund of the Treasury, and that fund is the product of the general tax receipts and the borrowings alike. Since the general taxpayers who pay the taxes are also responsible for the Government's borrowings, taxes and borrowings have equal reality to them, and they are not entitled, therefore, to find comfort in the view that interest payments that are financed by borrowings are costs less real than interest payments that are financed by taxes.

The Government has not taxed sufficiently to pay its operating expenses, including the interest on the public debt, since 1930, the latest year of a balanced budget. The Government treats alike the interest on the government bonds owned by the fund and the interest on the bonds owned by the public, paying dollars — not tax receipts — to both. It obtains its dollars by taxing *and* by

borrowing, and lately there has been much of the latter. Dr. Lutz's point appears to have this substance only, that when the Government pays interest on the bonds owned by the trust fund it can expect at present that the general fund will be immediately replenished by a new borrowing from the trust fund.

The new borrowing from the fund is not done specifically to reimburse the Government for the interest it has paid on bonds owned by the fund, as is implied in the "pure bookkeeping" accusation and in the claim that the interest payment is not a "real cost." Because the present costs of Government, including interest on the entire public debt, exceed the general revenues, these costs require replenishments of the general fund by borrowings. The borrowing from the trust fund is for such replenishment, but no such borrowing is related to any specific item of the governmental costs.

At present, moreover, the interest being paid on bonds owned by the public is being similarly recovered by the Government through new borrowings; that is to say, the purchases of government bonds by the public exceed the interest payments the public receives. Thus any accusation that the interest payments on bonds owned by the fund are not "real," made on the ground that they do not require appropriation of "tax receipts," would apply with substantially equal force to the present interest payments on the bonds owned by the public. If the Federal budget were in balance, it would be clear that both sets of bonds were receiving interest through appropriations that were financed entirely by tax receipts.

It appears, therefore, that the distinction claimed by Dr. Lutz between the character of the interest received by the fund and that of the interest to be received by private bondholders, is founded on a change in his assumption in the course of his argument. In saying that the former is not "real," he has assumed a deficit Budget, since only in that case will the interest payments be followed by a borrowing to complete the second half of the "bookkeeping transaction." In saying that the interest paid to private bondholders will be a "real cost," however, he has assumed a balanced Budget, since only in that case will the interest be supplied exclusively by "appropriations of tax receipts."

Such changes of basic assumptions are likely to produce erroneous conclusions. This change apparently led Dr. Lutz to consider that because the fund owns government bonds (and not

other bonds), and because the Government is now operating with a deficit Budget, the fund is "illusory." The sentences which are being considered under this heading must be judged to have been founded on a distinction that is without merit, since the things compared, assuming as they did opposite Budgetary conditions, were not comparable.

It would be correct enough to speak of "appropriations of tax receipts," whenever the Budget should be in balance. But Dr. Lutz's finding that paying interest on the special obligations requires "no appropriation of tax receipts" refers to the present time, when the Budget is not in balance, and when, because it is not and because moneys are accumulating in the fund, the interest payments to the fund are followed by new borrowings from the fund. It is not because these bonds in the fund are "special obligations," nor because they are in the fund and not elsewhere, that the interest payments thereon are followed by these new borrowings, thus completing the two real transactions which Dr. Lutz found to be a single unreal cost of government. It is wholly because the Budget is not in balance. Thus the true culprit is not the plan of the statute, or the purpose to accumulate a fund, or the requirement that the accumulations be invested in government bonds, or the quality of the fund itself. It is the unbalanced Budget, and that seems unavoidable at present.

III

Dr. Lutz has presented, as an argument against accumulating a fund, what amounts, largely, to an argument against decumulating the fund, once it has been established. "The theory of a reserve is illusory," he said, "in that it can only serve the true function of a reserve by being converted into a debt held by the public." And: "If and when the reserve must be drawn upon through liquidation, funds to meet the draft must be obtained by selling to the public some of the fund assets." These sentences treat the "true function" of the reserve fund as the disbursement thereof for pensions at some later date. This cannot be accepted. This, I suggest, is not "the true function" or even *a* true function. It is only a not-to-be-desired expedient, to be employed only in some fiscal emergency.

The purpose of accumulating a fund is to keep it, if that can possibly be done. Having lent moneys to the Government, the fund will share in the Government's appropriations for interest,

appropriations which, assuming equal interest rates, will be the same, fund or no fund, since they will be fixed otherwise by the amount of the Government's debt, and that debt will always be the accumulated fiscal deficits. The accumulation of the fund would have spread the taxing more evenly over time, and, because of the effect of the interest income, would have reduced the total taxation required for the pensions. It would have reduced the pension program deficit (the difference between the accrued liability for pensions and the amount of the accumulated fund) dollar for dollar, and would have reduced the total deficits of the Government, in its fiscal and pension affairs combined, by the same amount. Accumulation is essential if the intended contributory character of the program is to be preserved and the contributions and taxes are to be permitted to equip the Government to pay the pensions.

Above all, it should not be thought that, for the fund *to be used for pensions*, its bond holdings must be liquidated by sale to the public or otherwise. The fund will be used continuously for the payment of pension claims, while it will also be replenished continuously by tax receipts and interest income. Whenever these payments and income shall balance, the income will make it unnecessary to sell the bonds to pay the pensions, while the existence of the fund will, in part at least, justify the employment of the income in this manner, since in effect those who receive the pensions will sell their claims on the fund to those who contribute the new taxes. In this manner the fund will be *used for pensions*, though its bond holdings remain untouched.[3]

Without a fund, the young registrants (and their employers) would contribute for forty years or so, at increasing rates, exclusively for the purpose of equipping the Government to pay non-needs-test pensions that are bonuses preponderantly to their elders, and without equipping the Government to pay their own pensions.[4] When, without a fund, the Government shall so employ

3. J. S. Parker, Social Security Reserves, p. 193: "... the equity in the ... reserve fund shifts from generation to generation of insured individuals, although the exact securities which acknowledge the debt of the Government may not change. ..."

4. The Social Security Board has estimated that persons in whom pensions will become vested prior to 1955 will have paid, on the average, for only about seven per cent of the cost of their pensions; and that persons in whom pensions will become vested prior to 1980 will have paid, on the average, for only about 26 per cent of the cost of their pensions. The difference between the

the tax receipts, it will in effect forcibly borrow these moneys, because their receipt by the Government will have established new claims for pensions, and the trustees will hold no assets against that liability.

The Government debt that will arise from such borrowing may not show on the Government's books, but that will not make it less burdensome. It will show clearly enough in the pensions which will be due and payable. It appears that annual disbursements, by 1980, may be $4,000 million. A contingency reserve fund of $12,000 million, accumulated under the three-times formula of the present method, would yield, at 2½ per cent interest, $300 million a year. The remainder, $3,700 million, would be the annual charge on taxation. That charge would be the fiscal equivalent of paying 2½ per cent interest on an *additional* public debt of $148,000,000,000.

Dr. Lutz's calculations (p. 26) show for 1970, the thirty-fourth year of the program:

Taxes	$2,928 million
Interest	1,008 million
Total receipts	3,936 million
Total expenditures	2,533 million
Fund balance	55,343 million

If a pension program had been inaugurated in 1912 which would now be paying $2,533 million a year for pensions and operating expenses, would it not be fortunate if there were now a reserve fund consisting of $55,343 million of the $262 *billion* government bonds now outstanding, and hence receiving $1,008 million a year of the Government's present appropriations for interest, thus reducing the taxation required to meet present pension disbursements by that amount? What would be "illusory" about such a fund? It should be clear, at least, that difficulties foreseen in decumulating the fund are not pertinent, since decumulation is not contemplated.[5]

sum contributed and the cost of the pension constitutes a bonus. Hearings before the (Senate) Committee to Investigate the Old-Age Pension System, July 1941, Part I, Appendix B, Exhibit 11.

5. It might become desirable to liquidate the fund if the public debt should ever be so greatly reduced that government bonds would not be available for ownership by the fund. This seems most unlikely now, but the theory of fund accumulation should recognize that it is a possibility. Liquidation under those circumstances would be wholly consistent with accumulation now, since quite as the large present public debt argues for fund accumulation, in

The chief purposes of fund-accumulation are (1) reducing the deficit of the pension program, (2) reducing the sum of the Government's two deficits — the fiscal deficit and the pension deficit — equally, (3) earning interest for pensions, thus reducing the taxation necessary for pensions, (4) spreading the tax burden more evenly over time, thus doing a larger measure of equity to the future taxpayers of all descriptions, and (5) providing the registrants with purchased and collectible claims against general taxation.

IV

Proof that the fund is not "illusory" is not dependent on insistence that the separate entity of the pension program should be recognized. When the total financial position of the Government is examined without reference to the relationship between the fiscal system and the pension system, the total debt of the Government becomes the sum of two items, namely, (*A*) the accrued liability for pensions; and (*B*) the government bonds, notes, etc., owned by the public. In such a consolidated debt statement the government bonds in the fund do not appear; being assets of the pension system and liabilities of the fiscal system, they offset each other and are cancelled out of the consolidated exhibit.

The bonds in the fund influence the consolidated exhibit, however, since the amount of the government bonds owned by the public will always equal the total amount of bonds outstanding minus the amount thereof owned by the fund. Thus all accumulations of government bonds in the fund reduce the amount of government bonds owned by the public (the *B* item); and since the *A* item will not be affected by the operation of the fund, will reduce equally the Government's total debt (*A* plus *B*), as that debt appears in a consolidated showing.

To illustrate, the gross public debt was about $231 billion at the end of 1944. Since the fund owned $6 billion of this debt, the amount owed to the public (the *B* item) was $225 billion. Had the $6 billion fund not been accumulated, the amount then owed to the public would have been the full $231 billion. Thus the

order that a large pension-program deficit additional thereto shall not be incurred, so would the payment of much of the public debt make maintenance of the fund less necessary. The subject of fund-accumulation requires present and continuous consideration in the closest possible reference to the total financial position of the Government.

B item, and the *A* plus *B* item, were each $6 billion smaller because of the accumulation in the fund. In such a consolidated debt statement the reserve fund becomes an absence of debt. What is "illusory" about an absence of debt?[6]

V

Dr. Lutz has reasoned incorrectly, however, even if there should be a liquidation of the fund. He said: " . . . the taxation whereby the reserve had been created originally would have been in vain, for a second tax levy would eventually become necessary in order to provide the money for the social security payments." This can be read only as a version of the argument that accumulating government bonds in the fund will result in "double taxation" for social security. On this subject Dr. Altmeyer has said:[7]

> But, I mean, the question is . . . aren't you double taxing? That is not true for this reason. When you pay a social security contribution, it is just as if you bought a war bond. . . . Later on all of us are going to be taxed to retire those war bonds. But that does not mean we are paying the Government twice the face value of the war bond. The first time you are paying the Government to get a claim on the Government. The second time you are paying for the cost of the war.
>
> . . . . The second time, when they pay for the retirement of these bonds (in the fund) they are not paying for social insurance. They are paying for the cost of the war or for the other purposes for which the funds were borrowed.[8]

But Dr. Lutz qualified his statement in the next sentence, acknowledging that the second levy would not be directly for social security. "This second levy," he said, "would be, directly, for interest and amortization of the bonds taken from the reserve." His finding,

6. Item *A* (the present accrued liability for pensions) has not been estimated and published by the Social Security Board or the Treasury. The illustration therefore does not state a value for the *A* item. A full statement of the consolidated debt of the United States cannot be made with the *A* item unknown.

7. Arthur J. Altmeyer, Chairman, Social Security Board. Hearings before the Committee on Expenditures in the Executive Departments, The House of Representatives, December 1, 1943, p. 18.

8. Although M. Albert Linton opposed larger reserve fund accumulation at a hearing before the Committee on Ways and Means, The House of Representatives, November 28, 1944, he concurred with Dr. Altmeyer on this point:

> Mr. Gearhart: . . . But under this system the Government borrows from its trust fund and then necessarily you impose double taxation upon a part of our citizenry.
>
> Mr. Linton: . . . I think you save double taxation.

Hearings on Freezing the Social Security Payroll Tax, p. 110.

therefore, was that the first levy (the social security taxes "whereby the reserve had been created") would have been "in vain" because a second levy, "for interest and amortization of the bonds, directly" (though perhaps indirectly for social security benefits) "would eventually become necessary." Let us see.

Here it is assumed (1) that the fund itself is being liquidated, and (2) that what Dr. Lutz called "the traditional policy in respect to (government) debt, namely, to retire it at maturity" by "levying taxes for amortization as well as for interest" will be employed. (It should be noticed, however, that the Government's choice for some time may be for the less difficult procedure of paying the principal of bonds by refunding instead of by taxing.)

The purpose of the first levy (the social security taxes) is to accumulate moneys and, by investing them in government bonds, to conserve them for the pension purposes described in heading III, including, in an emergency, liquidation for the payment of pensions.

The second levy (the levy on the general taxpayers) must be made in the same amount, fund or no fund, since it will be exclusively the result of the Government's having borrowed, and the Government will have borrowed the same sums (namely, the amount of the Government's accumulated fiscal deficits), fund or no fund. That this levy will be made cannot be questioned, short of distrusting the Government's credit. If it is made, the first levy will not have been "in vain," since the purposes here assumed of accumulating, investing, and collecting the moneys, for disbursement in pensions, will have been achieved. The Government, moreover, will have had the use of the moneys meanwhile, and for that use will have paid interest to the fund.

It appears, therefore, that Dr. Lutz's point is valid only insofar as it means that for the pension program to recover its invested moneys, the Government must pay its debts. Of course it must. But that is very far from showing that the contributions and taxes which accumulate government bonds for the pension program are levied "in vain." It suggests, rather, that they will have been levied successfully.

Here also the test of the consolidated debt statement can be applied. As stated in Part IV, the first tax, the social security tax, accomplishes an absence of debt in a consolidated debt statement of the Government's fiscal and pension affairs. The second tax, the general tax which might be levied to pay govern-

ment bonds, if the reserve fund should be in the process of liquidation for the purpose of paying pensions, will also accomplish an absence of debt, since paying pensions will reduce the liability for pensions. Thus both taxes will have exactly the effect that is to be expected from all taxes, that is to say, each will result in an absence of debt. It follows that neither tax will be levied "in vain." If it appears in such a consolidated showing of the Government's fiscal and pension affairs that the social security revenue is used for general purposes, and that the said general revenue is used for social security purposes, those false appearances merely portray another shortcoming, additional to the shortcomings described in Part I, of the use of the consolidated treatment in this case.

It seems clear, therefore, that when the Government's fiscal and pension affairs are treated as a consolidated whole, no less than when they are treated separately, both taxes will be seen to be levied purposefully, the one for social security, the other to pay government bonds. Thus Dr. Lutz's finding of two taxes for social security, which is the basis of his view that the first tax is levied "in vain," cannot be attributed to his having adhered to a preference for the consolidated showing. Instead, it is an example of the error invited — a not uncommon one in the discussion of the reserve subject — whenever the Government's fiscal and pension affairs are treated separately at one moment and as a consolidated whole at the next, within the course of a single demonstration.

The passages quoted in Part I reveal a preference for portraying the Government's fiscal and pension affairs in a consolidated showing,[9] but Dr. Lutz did not adhere to that preference throughout his argument that the first tax is levied "in vain." There he did not speak of the first tax as being "principally devoted to general purposes." On the contrary, he spoke of it as "the taxation whereby the reserve had been created originally." That language, it appears, recognizes that a fund is created, and therefore recognizes also the separate entity of the pension program. In describing the second tax, however, he treated a general tax that might be levied to pay government bonds as "a tax to provide for the social security payments." There, it seems clear, he returned to his preference for the consolidated showing. It appears,

9. Such a preference seems indicated also in his remark (loc. cit., p. 10) that "the taxes now being collected are principally devoted to general purposes and only in minor degree to genuine social security purposes."

therefore, that the source of Dr. Lutz's finding that both taxes are for social security was this change in accounting treatment, since it was only by that means that both taxes could be so described.[1] Such changes in accounting method are not permissible and seem certain to end in error. The Government's fiscal and pension affairs should be treated separately *or* as a consolidated whole, and whichever method is selected should be adhered to without deviation. That treatment which respects the separate entity of the pension program is to be recommended, for the reasons heretofore stated; in either case, uniformity in treatment is essential.

No tax levy can be shown to have been "in vain" unless it is shown to have resulted not only in increased expenditures by the Government, but also in expenditures which were wholly wasteful. Dr. Lutz made no such claims.

VI

Because Dr. Lutz's argument that the fund is "illusory" is founded throughout on two facts, (1) that the fund contains bonds of the United States Government (and not other bonds), and (2) that the Government now has a deficit in the Budget, it is unintentionally unfavorable to the need to uphold the credit of the Government. If the bonds in the fund were bonds of other borrowers, say bonds of Standard Oil, General Electric, American Telephone and Telegraph Company, et al., or if they were government bonds but the Government were operating with a balanced Budget, the basis of Dr. Lutz's view, namely, that the fund's moneys are being borrowed and spent by the Government, would not exist. In the first case, the moneys would go into the possession of the borrower corporations; in the second case, they would be used by the Trustees to purchase presently-outstanding government bonds. The Government would not receive the moneys in either case, and therefore could not spend them.

There would be no basis, either, for the claim that the social security taxes now being devoted to investment in government

1. It should be noted that a similar change in accounting treatment applied in the opposite direction, that is to say, treating the first tax as "principally devoted to general purposes" and the second tax as devoted to paying government bonds, the former being a concept of the consolidated showing and the latter of the separate showings, would hold that *neither* tax is for social security.

bonds are being levied "in vain," if the Budget were in balance or if the bonds were bonds of other borrowers. With the Budget in balance, no new bonds would be sold by the Government, and then it should be clear that purchases of presently-outstanding bonds by the funds would not increase the Government's obligation to pay bonds. If the bonds were bonds of other borrowers, those borrowers, not the Government, would have to supply the moneys for the bonds' redemption.

Finding the fund to be illusory on the ground that it owns government bonds, and not other bonds, is absurd on its face. Can it be argued that an illusory fund would attain to reality, if the Trustees should sell the fund's holdings of government bonds in the market and buy, instead, bonds of other borrowers, the statute having been amended to permit this?

Holding the fund to be illusory because it consists of government bonds, and not other bonds, holds the bonds themselves to be illusory, to their owner and to their maker alike. But they will not have been illusory to either their owner, the fund, or to their maker, the Government, if they are paid; and if the basic assumption on which the credit of the Government rests, and must rest, is respected, they should be seen now not to be illusory. That basic assumption is that all moneys invested in government bonds will be safely preserved for those who invest, even though, as is always the case, the Government will spend the moneys it receives for its bonds. Dr. Lutz appears to have shown only that the Government will not hold any specific assets against the promises in its bonds. That, however, is a well-known fact, which does not detract in the least from the substantiality of government bonds, if the said basic assumption is respected.

In all essential respects the bonds in the fund, including the special obligations, are identical with the government bonds owned by the public. It seems fortunate, therefore, that the fund is not illusory, since if it were, for the reasons claimed, all private funds of government bonds would be illusory too. The moneys the Government receives for the bonds it sells to the public are also spent. It would become very difficult for the Government to finance the war deficits, presumably, if the view that the fund is illusory, founded on the circumstances that it contains government bonds and that the Government is operating with a Budget deficit, should spread into the area of private investment in government

bonds. That view has equal application there. It has no merit in either area, however, if it is assumed that the Government will pay its bonds. That assumption seems of great value at present.

It seems fortunate, also, that the tax which results in fund accumulation will be seen not to be levied "in vain," if that assumption is respected. That reasoning also would have equal application in the private area. We should have to hold for no other reason than that the general taxpayers must be taxed to pay the Government's debt and to permit private persons to recover their investments therein, that present private saving for investment in government bonds is "in vain."

Dr. Lutz wrote in terms which are not complimentary to government bonds. "The so-called reserve," he declares, "is obviously nothing except the Government's debt to the fund." That is to say, *nothing except government bonds*, acquired for value paid! To be sure, the Government is operating at a deficit. Even so, are any better bonds available? That, invariably, should be the test of the substantiality of any such fund.

VII

At the Ways and Means hearings, November 27, 1944, Dr. Altmeyer said that, based on two sets of cost estimates, there is now a deficit in the pension program of from $6.6 billion to $16.5 billion [2] It appears that several factors have been influential toward persuading Congress and the public that this pension-program deficit is acceptable, although it is additional to a public debt that is now in an uncharted area.

(1) The pension-program deficit does not appear in the books of the pension-program or of the Treasury. The record of it is available only in Dr. Altmeyer's testimony on several occasions before the Committees of Congress, and it has had almost no mention in the press.

(2) A popular belief, clearly the product of the reasoning that produced the 1939 amendments, that the adequacy of the accumulation in the fund can be satisfactorily measured by the disbursement requirements of the next five years alone, without reference to the much larger, presently-accrued governmental

2. Mr. Altmeyer was incorrectly reported in the printed Hearings. Letter to the author, February 9, 1945.

liability for pensions payable thereafter. This belief takes the short view in preference to the long view.[3]

(3) The view that the reserve fund of government bonds, because they are government bonds and because the Government is operating with a deficit Budget, is without substance, or, in Dr. Lutz's phrase, is "illusory."

It does not seem surprising, in these circumstances, that the accumulation question has not been discussed on its merits. Those merits are (*A*) the presently-accrued liability for pensions, computed in the manner required of private insurance companies, and (*B*) the maturities thereof, both early and late, having regard, however, for (*C*) the total financial position of the Government, and for (*D*) the need to do reasonable equity to the future taxpayers of all descriptions. *A*, *C* and *D* have received insufficient attention. No exhibit *A* has been available, except as Dr. Altmeyer has estimated the deficit. Almost no attention was given to *C* in the 1939 amendments, and it has become much more important since. *D* is closely related to *C*. The governing considerations have been the early maturities of the pensions and the suspicions concerning the substantiability of the fund referred to above.

It seems clear that the continuing fiscal deficits and the present inability to correct them are in considerable degree responsible for the view that the fund is illusory. The heart of that complaint is invariably that the Government is borrowing and spending the fund's moneys. It does this only because of the deficits. It seems most unwise, however, and to miss the mark entirely, to visit the present fiscal difficulties either on the entirely correct investment requirement of the statute or on the program's need to accumulate against its rapidly increasing liabilities.

The fund is not "illusory." Without the present fund the consolidated debt of the Government would be $6,000,000,000 larger than it is. The fund consists of government bonds, and there are no better bonds. They have been bought and paid for by the pension program. They would be outstanding in the same amount, fund or no fund. Accumulations by the fund will not result in additional taxation, but in less taxation. Though the purposes of present accumulation do not include future decumulation, except

3. Seymour E. Harris, Economics of Social Security, p. 64: "... there has been a strong tendency to disregard and minimize problems of future financing. Neither the Treasury nor the Advisory Council has made any concrete suggestions for raising the required future revenues."

in an emergency, such decumulation would not present any additional fiscal difficulty, since the bonds will be outstanding and must be paid, whoever may own them. Dr. Lutz's opinions to the contrary seem founded on failure to recognize invariably certain distinctions which the Social Security Act itself established and on acceptance of other distinctions which he has not demonstrated and which must be rejected.

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INTEREST-FREE DEFICIT FINANCING: REJOINDER

In an earlier article[1] I critically examined proposals for interest-free deficit financing — in particular, Professor D. McC. Wright's case for this technique. In his reply[2] he endeavors to convey the impression that the rationale of interest-free deficit financing remains unimpeached, defending his position by a restatement of his original arguments together with certain new ones which, in my opinion, demand criticism and correction. Because of limitations of space, the discussion which follows will be concerned mainly with his novel arguments.[3]

Professor Wright reiterates his previously expressed view as follows:

> . . . when the Government is merely offsetting hoarding and keeping men at work who would otherwise be idle,' there could at times be an increasing discrepancy between the cost to the banking system of creating a certain amount of deposit currency and handling it, and the amount of the cumulatively increasing installments of interest which must be paid by the Government on such loans.[4]

His contention is that:

> Tax friction and the tax burden, therefore, might be considerably reduced if an attempt were made to relate the price of creating credit through the medium of the banking system (interest) to cost of services rendered, instead of mechanically paying larger and larger amounts in interest as time goes on.[5]

1. "Fallacies of Interest-free Deficit Financing," this JOURNAL, May, 1944.

2. "Interest-free Deficit Financing: A Reply," this JOURNAL, August, 1944. Although he conceded that I had "adduced considerations which show that the plans suggested would probably be inadvisable during short depressed intervals," there is no admission that the supporting arguments are fallacious in principle.

3. I expect to publish, in the near future, a systematic treatment of certain questions of banking theory and fiscal policy which will relate to and indirectly provide a more complete critique of Professor Wright's basic arguments.

4. In his book, he expressed the latter part of this proposition in the words: ". . . *there will probably be a definite tendency* for the income of banks from government bonds to exceed the cost of the services which the banks render." P. 156. (Italics added.)

5. See "The Creation of Purchasing Power," p. 156. Accordingly, he has proposed, ". . . the allocation, in times of depression and unemployment, to the Federal Reserve Banks, of non-interest-bearing, non-transferable government bonds. Alternatively, the bonds or 'credit certificates' might be allocated directly to the commercial banks. A reasonable service charge was

In his reply, he reaffirms this view, albeit with certain qualifications.[6] But, as will be shown presently, his qualifying assumptions *are* either "too far removed from reality" to justify his conclusions or else it must be said that he reaches his conclusions via a process of assumption.

It is only in connection with secular stagnation that Professor Wright now seems to think that there might arise an important discrepancy between the price and cost of bank credit extended to the Government. In a secularly stagnant economy, he avers that banks "would probably not need to operate on the old scale and hence there would be no need to subsidize them indefinitely on that basis." No realistic explanation is given as to why competition cannot be relied upon to prevent the price of bank credit from exceeding its cost — that is, in the sense that this term and its economic elements are generally understood.

If the present method of deficit financing should involve the subsidization and perpetuation of a "redundant" banking system, the same thing would also be true in respect to many other industries. Regardless of how the spending program is financed this would be the result. Indeed the object of the spending policy is to provide a compensatory "subsidy" to industry in general which is redundant in relation to aggregate demand. Therefore, insofar as the spending policy requires "boon-doggling" (in the most favorable sense of the word), in order to effectuate its purpose of permitting us to avoid "general regimentation", would not banks be high up on the list of socially justifiable projects through which

to be paid in connection with the allocation of each bond, but nothing thereafter." Wright, "Interest-free Deficit Financing: A Reply," p. 638.

6. He states that his conception of a rental element in bank income is based on the following assumptions: "As shown by my original model, this tendency would depend upon the continued existence of (1) a minimum interest rate structure on government bonds centering around two per cent, more or less, on longer-term issues, which set of rates, due to liquidity preference and the speculative motive, would remain relatively fixed as a lower limit, (2) service charges high enough to cover the operating and overhead costs of checking accounts, (3) low interest payments on saving and time accounts, so that, even allowing for expenses involved, the total costs of such accounts would be less on average than the interest received from government bonds. In addition I pointed out that (4) the tendency toward possible 'spread' would be greatly influenced by the number of profitable private loans made by the banks. These assumptions did not appear too far removed from reality, and it did not seem unreasonable to inquire into ways by which government payments could be, not eliminated, but more directly related to costs." Ibid., pp. 638–639.

to provide opportunities for government "investment," and work for the unemployed?

As for Professor Wright's Keynesian-inspired assumption that lower limit of the long-term interest rate centers around two per cent, it may be said that this is not borne out by the trend in interest rates on bank credit extended to the Government during recent years. Furthermore, even if the assumption in question were valid, it still remains to be explained why the existence of a minimum liquidity preference rate, as manifested in the rate of interest, should be construed as a non-cost — and, hence, a rent-element in the price of bank credit.

There is also the interesting question of what criteria for determining bank compensation in lieu of interest might be safely substituted for the standards of the market. (Incidentally, the mere raising of this question emphasizes the conclusion that the notion of a generalized rent element in bank income from government bonds, in which there is a competitive market, is little more than a vagary.) One can readily visualize the economic and political difficulties which would be encountered in determining what constitutes a "reasonable" service payment to the banks for their services as manufacturers of credit for the Government. In this connection, Professor Wright's own arguments — anent the stagnating economic consequences of past and (probable) future restrictive business and mercantilist, governmental policies — definitely suggest that the destruction of the market in government securities (incident to the adoption of interest-free financing) would expose another sector of the economy (the banking business) to the kind of uneconomic arbitrament which he himself decries.

In relation to the question of the cost and price of credit, several other challengeable arguments are used by Professor Wright. For example, in an ostensible summary of my views, he writes:

> . . . Poindexter argues that even if the subsidy element exists, it would be a good thing. He lists several classes which benefit from the payment of interest to the banks by the Government. These are, first, depositors in general through lower service charges; next, small savers, towns, rural banks, and colleges, etc.

In criticism of this formulation, he says:

> If the people of the United States really want to pay taxes for these purposes, and if the money received by the banks is so employed, then I should have no objections. But how many understand the matter in this way?[7]

7. Ibid., p. 642.

The answer to this question is that nobody understands the matter in this way, nor should it be so understood. Bank borrowers have always been the principal source of the revenue out of which the costs of bank services to depositors have been defrayed. Inasmuch as the phenomenon of bank credit creation depends upon the behavior of the depositor, there is no apparent reason (assuming the existence of a competitive market) why a distinction should be made in the propriety of the interest payments which the Government, as borrower, must make to the banks, as against those which private borrowers must make.

In imputing to me the view that it would be a good thing if the alleged subsidy interest existed, Professor Wright misconstrues my intended meaning and gives a heads-I-win-tails-you-lose turn to his own position. In my article, I called attention to the facts that Prof. Alvin Hansen has objected to interest-free deficit financing on the ground (among others) that it would deprive "social security trust funds, savings banks, life insurance companies, and educational and other non-profit institutions . . . of a reasonable return"; that Professor Wright himself acknowledged the force of this objection; and that he suggested a "*disguised* subsidy" in the form of interest-bearing government bonds "which could only be purchased by institutions (specifically, those listed above) and certain types of individuals (say small savers) whom it is desired to help."[8] At no point was it conceded or assumed that there might be a "spread" between the price and cost of bank credit extended to the Government; nor was it stated "that it would be a good thing" in the special sense implied by the context of Professor Wright's argument. I, of course, implicitly assumed that no "subsidy" (in the sense of unearned income) is being paid to government bondholders, when they receive interest payments on bonds whose prices and yields are determined by market conditions.

Professor Wright argues that:

> . . . even if it were to be shown that during cyclical slump the government service charges needed to keep the (banking) system going on the desired scale under my plan and the interest payments made under the present methods happened to be exactly equal, still there would be reason for considering the type of finance I had in mind. These reasons are: (1) reduction of tax friction, (2) a gain in clear thinking, (3) greater ease and directness in handling the problem, (4) reduction of speculative fluctuations.[9]

8. Wright, "The Creation of Purchasing Power," p. 219.

Taking the last one first, let us examine these additional arguments. As Professor Wright says, the present policy of deficit financing creates "a mass of securities whose value in prosperity the Government must peg or else run the risk of endangering the solvency of the banking system." But, as regards the possible adverse effects of "prosperity depreciation" of government securities, it is difficult to reconcile the expressed concern for the solvency of the banking system with the other advantages claimed for a scheme by which interest payments on bank-held government debt would be largely eliminated.

First of all, no rise in interest rates and, hence, fall in bond prices is to be expected so long as investment outlets are deficient and the Government continues to pump new money into the economy. Second, if prosperity should one day rear its welcomed head and interest rates materially rise, the proposed method of deficit financing would surely constitute no less a threat to the solvency of the banking system than the possible depreciation of government bonds. (Incidentally, to the extent that bank assets consist of securities other than federal bonds, the substitution of service charges in lieu of interest payments on government debt would not, in itself, mitigate the possible adverse effects on the banks of slumps in the bond market.) Third, there is a more basic fallacy in the notion that the problem of insolvency might be appreciably reduced by using a different method of compensating banks for creating credit for the Government. Instabilities of interest rates and capital values are the result of shifting estimates of future economic realities. Fluctuations in value are an inherent potentiality of all investments and, in large part, interest is a payment to compensate investors for bearing the attendant risks. Indeed, it is difficult to see how there can be a true investment where the vicissitudes of the market do not condition its value. Hence, even with the full acquiescence of the banks in a substitute (service charge) method of compensation, the danger of bank insolvency, as a result of fluctuating bond prices, could never be eliminated as long as, and to the extent that, any measure of eco-

9. Wright, "Interest-free Deficit Financing. A Reply," pp. 641–642. Professor Wright uses the term "tax friction" to comprehend the real social costs which are involved in public resistance to taxes, their depressive effects on the inducement to invest and all of the other direct and indirect social burdens which may be ascribed to public debt and taxes. See "The Creation of Purchasing Power," pp. 136–137.

nomic responsibility should remain on the shoulders of the country's private bankers.

On the other hand, insofar as the Government pursues a policy which has the effect of sheltering the banking system from the hazards of the market, it preëmpts the economic responsibilities of the private banker and, in addition, fastens onto the Government precisely the same financial burden whose avoidance is sought. Moreover, unless the Government is to safeguard the banking system against the adverse effects of the uncertainties which are really inseparable from the existing economic system, the reform intended to obviate the problem of speculative fluctuations in government securities might well cause equal or greater uncertainties and instabilities to reappear in other directions. For example, after an interval of interest-free deficit financing, uncertainty as to when and to what extent the Government might retire its monetized (non-interest-bearing) debt, and thus, *pro tanto*, clear the way for non-inflationary monetization of private debt, would vitally affect interest rates and hence the value of such securities as might be owned or subsequently acquired by banks. Finally, there would be uncertainties (greatly aggravated by political considerations) as to the rate and duration of the service payments which the banks could expect from the Government. In short, there is scant reason for doubting that the scheme in question would subject the banking system to as many if not more instabilities, and hence, dangers of insolvency, than those which it is designed to avoid.

Let us next consider the question whether taxes would probably be reduced through the substitution of a system of government-service-charge payments in lieu of the present interest-payments system. Professor Wright's arguments relative to this question run as follows:

> Such problems as these and the problem of controlling inflation are greatly confused in the public mind by confounding net increases in the money supply, during unemployment, with genuine borrowing.[1]
>
> . . . .
>
> The difference between a subsidy related to cost and an automatic interest payment is that one stops at the end of the slump (when private loans and bank income increase), while the other — unless the national debt be repaid — continues indefinitely.[2]
>
> . . . .

1. Wright, "A Reply," p. 643.
2. Ibid., p. 642. In this connection, he adds: "Because under the plan

In this regard it has recently been pointed out that the English are still paying interest on the beer drunk by Cornwallis' soldiers at Yorktown. The plan I suggested would greatly reduce this problem.[3]

These arguments overlook the significance of the facts that, for any given conditions as to the circuit velocity of money, there is a certain relationship between the value of the money created as a result of borrowing from the banking system and the real value of the community's savings; and that it is the depositors who do the real lending through the medium of the banking system. Money created by the banks, within the limits determined by the conventional relationship between the long-run average amount of reserves and the dependent volume of MV — the factors to which the price level and the scale of the banking business are adjusted — is to be considered as "borrowed" just as truly, from the standpoint of economic analysis, as money borrowed from individuals.[4] The *recreation* of deposit currency, within the limits of the previously established equilibrium volume, may be regarded as the practical equivalent of a releasing of abnormally large balances or hoards of an existing money supply. In fact, since it is the depositors who do the real lending, any amount of deficit financing via bank credit expansion (short of inflation) is properly to be considered as genuinely borrowed. Hence, unless the Government carries its policy of deficit financing (by borrowing from the banking system) to such an extent as to *cause* price inflation,[5] the continua-

suggested, when private loans picked up, the payments made to the banks by Government to enable them to keep their plant together would no longer be needed." Ibid., footnote.

3. Ibid. p. 643.

4. In recent years, of course, we have witnessed in this country a virtual revolution in the circumstances of bank credit creation. Devaluation of the dollar, a remarkable concentration of gold reserves, the absence of normal demand for investment funds, the existence (until recently) of enormous excess reserves and enormous increases in the money supply, coincident with the government's policy of financing depression and war deficits by bank borrowing — these are some of the circumstances which have lent plausibility to the argument that government borrowing from the banks is not "genuine borrowing." In principle, however, these conditions cannot be regarded as relevant to the merits of the case for any responsible method of avoiding interest on government debt as a systematic policy.

5. If it is assumed that the Government is going to deflate afterwards, this seems to be the one condition under which the incurrence of an interest-bearing debt would be unnecessary and (possibly) undesirable. However, this case has no practical significance in the present connection, since one of the purposes of compensatory fiscal policy is to prevent not only deflation but also

tion of interest payments (during full employment) on unretired bank credit, competitively created during depression, is no more a "subsidy" than interest payments made to individuals.

As for the impliedly sinister fact that "the English are still paying interest on the beer drunk by Cornwallis' soldiers at Yorktown," let it be recalled that the real cost, for the compensation of which interest is paid, continues as long as owners of alienated claims to economic goods continue to forego the assertion of their claims. *Time is of the essence of the interest contract.* Claims to economic goods, whether represented by national debt or any other kind of debt, may be perpetuated indefinitely, depending upon whether the parties concerned wish to liquidate the creditor-debtor relationship involved. The English, of course, could have retired the debt by imposing the necessary taxes, had they found it to their net advantage to do so.

Even if it were true that no interest need be paid on compensatory injections of new money during depression, there are excellent reasons for doubting that any saving in "tax friction" would be gained thereby — assuming that the (probable) subsequent inflation threat is to be curbed. Professor Wright himself emphasizes a point which, though intended as a further support of the case for interest-free government borrowing, actually leads to the conclusion that the scheme in question would magnify the amount of "tax friction." He says:

> . . . are there not many people today who think that repayment of the national debt would help prevent inflation? Actually, of course, this opinion may be quite false. The fact seems to be that repayment of the national debt would be deflationary chiefly at the one time we would not want it to be — namely, during a slump. The thing primarily accomplished by repaying the national debt is release from future tax friction (at the expense of greater present tax friction). But to get relief *and* curb inflation one must, under the present system, tax *twice* — once to repay the debt and once to hoard deposits and reduce MV.
>
> . . . .
>
> The methods suggested avoid such a double burden.[6]

It is quite true that repayment of the national debt does not necessarily reduce total purchasing power outstanding. Hence, since the amount of "tax friction" is doubtless an increasing function of the marginal tax rates imposed during any given tax period

inflation which is admittedly more objectionable than debt and the associated interest burdens.

6. Ibid. pp. 643, 644.

or series of periods, any fiscal policy which will eventuate in a situation requiring higher tax rates will progressively magnify the amount of tax friction. But taxes of any given (aggregate) amount cannot be considered as oppressive apart from the amount of the tax base and the length of the period during which they must be paid. For example, other things remaining the same, the necessity of paying a total of $100 billion in taxes over a one hundred year period might prove to be a negligible burden, whereas, if it had to be paid within a five or ten year period, it most likely would prove to be a source of tax friction of serious proportions.

This is precisely what free compensatory financing might be expected to lead to.[7] The amount of annual taxes required to retire a sufficient amount of the depression additions to the money supply to offset the inflationary consequences of prosperity dishoarding would very likely exceed the amount of taxes required annually (during the prosperity phase of the usual business cycle) merely to pay interest on an orthodoxly borrowed amount equal to the interest-free depression additions to the money supply.

Professor Wright states that "it is easy to exaggerate the amount of dishoarding that would actually take place." He adds, "Especially in secular stagnation, full employment might come only because net hoarding had stopped — not because there was dishoarding. . . ."[8] This is tantamount to saying that shifts in the schedule of liquidity preference are improbable or unlikely to be of significant proportions. This argument is surely refuted by the fact that marked variations in velocity do occcur during the different phases of the business cycle. Moreover, as for the case of secular stagnation, it should be noted that there is nothing peculiar to such a condition which would prevent changes in velocity as great as, or greater than, those which have occurred in the past.

7. As Professor Wright himself says: ". . . no program of purchasing power injection which expects to avoid inflation can entirely escape the necessity of taxation at *some* point of time. However, the time at which the tax is imposed can be shifted and also the amount of the tax needed may in some circumstances be greatly reduced. As Professor Pedersen says, the national debt should 'never be repaid for its own sake' but only when repayment has a 'beneficial effect on economic life' . . . the taxation and cancellation of the purchasing power injected should take place only as a matter of credit control and not as a mandatory repayment. . . ." See "The Creation of Purchasing Power," p. 184.

8. See his "Reply," p. 645.

As one exponent of the stagnation thesis has pointed out: "A secularly stagnant economy might well be characterized by even more violent fluctuations than the predominantly prosperous economy of the nineteenth century. The difference is in the norm around which fluctuations would occur."[9] In this case, it seems quite probable that inflationary dishoarding would occur in such an economy, thus necessitating the taxation and cancellation of excess purchasing power, if the scheme in question should be put into practice.

In my criticism of interest-free finance, I maintained that it would probably be technically and politically impossible to manipulate rates of spending, taxing, etc., so as to maintain an acceptable degree of economic stability. Professor Wright feels that this objection "could be alleged almost equally well against present methods."[1] For this reason, among others, he infers that a debt-free method of compensatory financing would bring a "gain in clear thinking," etc. He writes:

> Present methods confuse the realities of the situation and make them difficult to grasp. The methods suggested throw them into sharp relief.
>
> . . . .
>
> . . . Poindexter suggests, in effect, . . . that the American people do not have sufficient intelligence or self-control to handle increases in the money supply during a slump. In particular, he does not feel that they can be trusted to act in time to prevent inflation. This may, of course, be true. But under a democratic Government, it seems to me, when one says that something is politically unworkable one should rather say that people are not sufficiently well informed about the problem. Yet fortunately, and this seems our chief hope for the future, neither public information (or lack of it) nor political feasibility are constants.[2]

It is far from my intention to leave the impression that the war policy of deficit financing is free of serious inflationary dangers. But I certainly do object to the implied view that interest-free financing would probably be no more inflationary than the methods with which we are familiar. Doubtless the government deficits of the past several years — especially since the beginning of the war — have been financed to an undue extent by a method (*borrowing from the commercial banking system*) which multiplied the money supply. *Nevertheless, the Government's fiscal policies have*

9. See Allan Sweezy, "Secular Stagnation?" in Post War Economic Problems (edited by Seymour Harris) Chapter IV, p. 79.,

1. Wright's "Reply," p. 644, footnote.

2. Ibid.

sufficed to enable it to finance a large part of its deficits by inducing non-bank lenders to transfer their purchasing power to the Government via bond purchases. Needless to say, this has served to lessen materially the inflationary potentialities of the government deficits. But, if interest on government deficits (covered by bank credit creation) should be abolished, the patriotic incentive of many people to help the Government "raise" needed funds would probably be disastrously impaired, thus necessitating what might otherwise have been avoidable increases in the money supply. Moreover, the removal of the obligation to pay interest on monetized government debt would weaken, if not destroy, the incentive to retire such debt at a time when it is most necessary to do so in order to avoid inflation. It simply seems incredible, in the light of our knowledge of group behavior, that public realization of the (in effect) debt-free terms on which the Government could spend would not produce an irresistible bias in the direction of bigger and better deficits to satisfy the demands of various pressure groups for special favors.

Unfortunate though it may be, it is not yet true in our democracy that the political workability of an economic policy automatically follows upon the spread of public information. Enlightenment is not the same thing as disinterestedness; and without a rare measure of the latter, no end of social mischief might well ensue upon the adoption of a fiscal scheme which, by its very nature, would encourage individual and social irresponsibility.

In this connection it is worth noting that one of the interesting paradoxes of Professor Wright's analysis consists of his optimistic view of the capacity of the people to manage a system of interest-free financing, while, at the same time, he predicates the relevancy of his proposal on the impliedly probable contingency that we will force ourselves into a condition of secular stagnation if we continue to "combine monopolistic restrictions with high tariffs." Needless to say, these practices are ominously indicative of a social indiscipline wholly inimical to his premise.

We conclude that all of the alleged justifications and advantages of interest-free deficit financing are illusory in that they are predicated on misconceptions of the circumstances and costs of bank credit; that the fiscal technique in question would probably produce inflation; that, even assuming successful management, it would fail to result in any real reduction (on the contrary, it would prob-

ably result in increases) in "tax friction"; and that, far from yielding "a gain in clear thinking . . . greater ease and directness in handling the problem," it would actually complicate and otherwise seriously jeopardize the achievement and maintenance of social stability.

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RECENT PUBLICATIONS

Agricultural and Industrial Development Board of Georgia. Georgia Goes Forward. Athens, Georgia: The Board. 1945. pp. 66.

Allied Commission, Public Relations Branch. A Review of Allied Military Government and of the Allied Commission in Italy. Rome: Stabilimento Grafico Giuseppe Menalgia. 1945. pp. 125.

Anderson, Benjamin M. Fallacies of Bretton Woods Proposals. New York: Reprinted from The Commercial and Financial Chronicle. 1945. pp. 7.

Baker, John Clahoun. Directors and their Functions. Boston: Division of Research, Harvard Business School. 1945. pp. 144. $2.50.

Banco Central de La Republica Argentina. Annual Report, Tenth Financial Period, 1944. Buenos Aires: The Bank. 1945. pp. 79.

——. Suplemento Estadistico de la Revista Economica. Buenos Aires: The Bank. 1945. pp. 12. [Nos. 93 and 94.]

Banco de la Nacion Argentina. Memoria y Balance General del 53 Ejercicio Correspondiente al Ano 1944. Buenos Aires: The Bank. 1945. pp. 144.

Beard, Charles A. The Economic Basis of Politics. New York: Alfred A. Knopf, Inc. 1945. pp. 114. $1.75.

Benham, Frederick. The National Income of British Guiana, 1942. Barbados Advocate Company, Limited. 1945. pp. 28. 10 cents. [Bulletin No. 17 of "Development and Welfare in the West Indies."]

The British Council. Britain Today. Toronto: J. M. Dent & Sons, Ltd. 1945. pp. 44. 15 cents. [No. 111.]

——. Britain Today. Toronto: J. M. Dent & Sons. 1945. pp. 44. 15 cents. [No. 113.]

Burdette, Franklin L. Political Parties: An American Way. New York: Public Aflairs Committee, Inc. 1945. pp. 32. 10 cents. [Public Affairs Pamphlet, Basic American Concept Series, No. 2.]

Burnham, Elizabeth A. Expenses and Profits of Limited Price Variety Stores in 1944. Boston: Harvard University Graduate School of Business Administration. 1945. pp. 35. $1.50. [Bulletin No. 123 of the Bureau of Business Research.]

Butters, J. Keith and Lintner, John. Effect of Federal Taxes on Growing Enterprises. Boston: Division of Research, Harvard Graduate School of Business Administration. 1945. pp. 226. $3.00.

Carrau, Hector M. Sapriza. Ensayo de Investigacion Sobre Algunos Proyectos de Coordinacion Economica de America. Montevideo: Talleres Graficos "33" S. A. 1945. pp. 187.

Cleef, Eugene Van. Postwar Foreign Trade Employment and Sales Prospects in Ohio. Columbus: Bureau of Business Research, The Ohio State University. 1945. pp. 36. [Research Monograph No. 36.]

Collin, Fernand. The Economic Solidarity of the United Nations. Antwerp: Kredietbank, N. V. 1945. pp. 13.

Committee for Economic Development. International Trade, Foreign Investment, and Domestic Employment including Bretton Woods Proposals. New York: The Committee. 1945. pp. 28.

Converse, P. D. Should I Start My Own Business? Urbana, Illinois: University of Illinois. 1945. pp. 44. [Special Bulletin No. 5 of the University of Illinois, College of Commerce and Business Administration, Bureau of Economic and Business Research.]

Copland, Douglas B. The Road to High Employment. Cambridge: Harvard University Press. 1945. pp. 137. $1.75.

Davis, Joseph S. Wheat Under International Agreement. Washington: American Enterprise Association. 1945. pp. 19. 50 cents. [National Economic Problems No. 410.]

Ellis, Howard S. Bilateralism and the Future of International Trade. Princeton: Princeton University. 1945. pp. 22. [Essays in International Finance No. 5.]

Ellis, Paul W. Tax Relief under Section 722. New York: National Industrial Conference Board, Inc. 1945. pp. 48. [Conference Board Reports, Studies in Business Policy, No. 9.]

Feis, Herbert. American Trade Policy and Position. Washington: American Enterprise Association. 1945. pp. 34. 50 cents. [National Economic Problems No. 411.]

General Education Board. Annual Report for 1944. New York: The Board. 1945. pp. 115.

Harris, Seymour E., Ed. Economic Reconstruction. New York: McGraw-Hill. 1945. pp. 424. $4.00.

Hoover, Calvin B. International Trade and Domestic Employment. New York· McGraw-Hill. 1945. pp. 177. $1.75.

Hosmer, Joseph B., et al. Ceramic Whiteware Prospectus. Atlanta: State Engineering Experiment Station of the University System of Georgia. 1945. pp. 23. 75 cents. [Georgia School of Technology, State Engineering Experiment Station, Bulletin No. 8.]

Industrial Relations Section, Princeton University. Techniques in the Negotiation of the Labor Contract. Princeton, New Jersey: Princeton University. 1945. pp. 5. [Bulletin No. 5.]

Katona, George. Price Control and Business. Bloomington, Indiana: The Principia Press, Inc. 1945. pp. 246. [Monograph No. 9 of the Cowles Commission for Research in Economics.]

Kidner, Frank L. and Neff, Philip. An Economic Survey of the Los Angeles Area. Los Angeles: The Haynes Foundation. 1945. pp. 151.

Kirn, Rev. Brian A. Financial Reports of American Commercial Banks. Washington: The Catholic University of America Press. 1945. pp. 366.

Kuczynski, Jurgen. A Short History of Labour Conditions in Germany 1800 to the Present Day. London: Frederick Muller Ltd. 1945. pp. 268. 9*s*. 6*d*. [A short history of labor conditions under industrial capitalism.]

Lee, Alfred McClung. Race Riots aren't Necessary. New York: Public Affairs Committee, Inc. 1945. pp. 31. 10 cents. [Public Affairs Pamphlet No. 107.]

Lewis, Cleona. Debtor and Creditor Countries: 1938, 1944. Washington: The Brookings Institution. 1945. pp. 99. 75 cents.

Lodge, Rupert C. Philosophy of Business. Chicago: The University of Chicago Press. 1945. pp. 432. $5.00.

L. R. A. Radio del Estado. Un Ciclo de Veintidos Conferencias Radiotelefonicas. Buenos Aires: Union Industrial Argentina. 1944. pp. 161.

Lutz, Harley L. Guideposts to a Free Economy. New York: McGraw-Hill Book Company. 1945. pp. 206. $2.00.

MacMinn, Ney, Hainds, J. R., and McCrimmon, James McNab. Bibliography of the Published Writings of John Stuart Mill. Evanston: Northwestern University. 1945. pp. 101. $2.50. [Northwestern University Studies in the Humanities, No. 12.]

Maestri, Raul. Algunas Lecciones Generales de la Zafra de 1945. Habana: Asociacion de Colonos de Cuba. 1945. pp. 20.

——. Pareceres 1944. La Habana: Editorial Lex. 1945. pp. 265.

McNair, Malcolm P. Operating Results of Department and Specialty Stores in 1944. Boston: Harvard University, Graduate School of Business Administration. 1945. pp. 42. $2.50. [Bulletin No. 122 of the Bureau of Business Research.]

Martin, James W. Southern State and Local Finance Trends and the War. Nashville: Vanderbilt University Press. 1945. pp. 106. 50 cents. [Papers of the Institute of Research and Training in the Social Sciences, Vanderbilt University, No. 8. Bulletin of the Bureau of Business Research of the University of Kentucky, No. 10.]

Merriam, Charles E. Systematic Politics. Chicago: University of Chicago Press. 1945. pp. 345. $3.75.

Morgan, Carlyle. Bretton Woods: Clues to a Monetary Mystery. Boston: World Peace Foundation. 1945. pp. 143.

Moulton, Harold G. and Schlotterbeck, Karl T. Should Price Control be Retained? Washington, D. C.: Brookings Institution. 1945. pp. 43. 50 cents.

Musée Social. Les Cahiers du Musée Social. Paris: Musée Social. 1945. pp. 72.

National Planning Association. From War to Peace. Washington, D. C.: The Association. 1945. pp. 20. 25 cents. [Public Policy Digest No. 57.]

Nelson, Lowry. Farms for Veterans. Washington, D. C. National Planning Association. 1945. pp. 20. 25 cents. [Planning Pamphlet No. 47.]

Newman, Philip Charles. The Economic Structure of the Peace. Rio Piedras, P. R. University of Puerto Rico. 1945. pp. 86.

Ord, Lewis C. Secrets of Industry. New York: Emerson Books, Inc. 1945. pp. 255. $3.00.

Piest, Oskar. Toward Stability of World Economy. New York: Julian Messner, Inc. 1945. pp. 61. $1.00. [Defense and Criticism of the Bretton Woods Agreements.]

Polit, Gustavo. Informe sobre la reconversion y la ocupacion plena en los Estados Unidos. Mexico: Banco de Mexico. 1945. pp. 114.

Rogers, James Grafton. World Policing and The Constitution. Boston: World Peace Foundation. 1945. pp. 123. 25 cents. [America Looks Ahead No. 11.]

Sotiroff, G. Ricardo und Sismondi. New York: Europa Verlag Zurich. 1945. pp. 47. Fr. 2.50.

Spahr, Walter E. Monetary Notes. New York: Economists' National Committee on Monetary Policy. 1945. pp. 4. [Vol. 5, No. 6.]

United States Department of Labor. Women's Wartime Jobs in Cane-Sugar Refineries. Washington: United States Government Printing Office. 1945. pp. 20. 10 cents. [Bulletin of the Women's Bureau, No. 192–9.]

——. The Outlook for Women in Occupations in the Medical Services — Women Physicians. Washington: United States Government Printing Office. 1945. pp. 28. 10 cents. [Bulletin of the Women's Bureau, 203, No. 7.]

——. The Outlook for Women in Occupations in the Medical Services — X-Ray Technicians. Washington: United States Government Printing Office. 1945. pp. 14. 10 cents. [Bulletin of the Women's Bureau 203, No. 8.]

——. Negro Women War Workers. Washington: United States Government Printing Office. 1945. pp. 23. 10 cents. [Bulletin of the Women's Bureau, No. 205.]

UNITED STATES SECURITIES AND EXCHANGE COMMISSION. Securities Exchange Act of 1934. Releases 3713–3737.

——. Securities Act of 1933. Release 3088.

——. Statistical Bulletin. August, 1945. pp. 15. [Volume 4, No. 8.]

——. Statistical Series. Releases 752, 753.

——. Holding Company Act. Release 6050.

——. Investment Company Act of 1940. Releases 794–804.

——. Survey Series. Release 87.

VISHNIAK, MARC. The Legal Status of Stateless Persons. New York: The American Jewish Committee. 1945. pp. 69. [Jews and the Post-war World No. 6.]

VLEKKE, B. H. M. The Netherlands and The United States. Boston: World Peace Foundation. 1945. pp. 96. 25 cents. [America Looks Ahead No. 10.]

WEITZ, ALICE C. Youth and Your Community. New York: Public Affairs Committee, Inc. 1945. pp. 31. 10 cents. [Public Affairs Pamphlet No. 108.]

WHITAKER, ARTHUR P., Ed. Inter-American Affairs 1944. New York: Columbia University Press. 1945. pp. 284. $3.25. [Annual Survey No. 4.]

YOST, EDNA. Straight Talk for Disabled Veterans. New York: Public Affairs Committee, Inc. 1945. pp. 31. 10 cents. [Public Affairs Pamphlet No. 106.]

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EXPORTS, IMPORTS, DOMESTIC OUTPUT, AND EMPLOYMENT[1]

SUMMARY

I. Relation between the effects of foreign trade and the structural characteristics of the national economy, 171. — Allocation of imports, 172. — Relation between "ultimate" demand and derived output and employment, 174. — Exports as an independent variable, 175. — Dependent and secondary exports, 177. — II. Formulation in precise quantitative terms, 178. — III. Relation between exports and employment in the United States in 1939: entire exports as part of final demand, including household consumption and domestic investment, 184; demand for consumers' goods not independent, 185; net terms of trade allowed for, 186. — General observations, 186.

I

The effects of foreign trade upon output and employment are based on the same structural characteristics of the national economy as those which determine the parallel effects of domestic demand. A previous article devoted to the study of this latter type of relationship contained a detailed exposition of the general theoretical scheme of what might be called the input-output approach to the empirical analysis of a national economy.[2] There it was shown that the relevant structural elements of a national economy can be quantitatively described in terms of "technical input coefficients." Each coefficient represents the amount of one particular kind of commodity or service — product of one particular "industry" — used by another industry per unit of its

1. The reader interested in general economic and quantitative analysis of the problem, but not in details of technical procedure, is advised to read Part I and Part III of this article, omitting Part II, which contains a mathematical formulation of the general theory presented in Part I.

2. "Output, Employment, Consumption, and Investment," this JOURNAL, Vol. LXIII, February, 1943.

output. The statistical data required for computation of a complete set of technical input coefficients for all branches of the national economy can be presented in the form of an input-output table (see Table I, below). This table shows the distribution of the output of each separate segment of the national economy among all its different users, i.e. all the other segments of the economy, including not only extractive and manufacturing industries and transportation, but also households and foreign countries. Foreign trade is considered in this connection to be a separate industry, with imports representing its output and exports its input. All the investment purchases of durable goods are segregated in a separate column at the end of the table. Only current inputs are listed in the other columns. All construction is assigned to investment.

The allocation of imports among the various branches of the national economy is complicated by the fact that many commodities coming in from abroad are nearly identical with similar goods of domestic origin. The technical structure of separate industries determines only the input ratios of the various types of goods and services, irrespective of their individual origin. It is only the allocation of the combined foreign *and* domestic supply which really matters from the point of view of each consuming industry taken separately. The obvious way to take account of the internal logic of these relationships is that of distributing competitive imports, not directly to their respective uses, but rather indirectly *through* the domestic industries producing similar types of goods. Thus all competitive agricultural imports can, for example, be charged first to domestic agriculture. The same amount has in this case to be added to the domestic net output of agriculture. The total supply thus obtained is then distributed between the consuming industries. This method of presentation has been used in the 1939 input-output table reproduced in the previously cited article.

Operationally, this approach can be shown to be equivalent to another based on the explicit assumption that all the consuming industries absorb the domestic output of any given type of commodity combined in a fixed proportion with a certain amount of its competitive imports, the proportion itself being determined by the ratio of the total import of the particular type of goods to their total supply (i.e. total imports plus the domestic output).

This observation suggests an alternative method of entering competitive imports in the input-output table. It consists of direct allocation of competitive imports to consuming industries, and is based on the fictitious assumption that each one of these industries absorbs the same relative combination of imports of any particular kind and of corresponding competitive domestic output. This method of allocation has the advantage of greater flexibility, since it allows deviation from proportional distribution of imports in all those instances in which specific, nonproportional allocation is actually possible and thus is obviously preferable. Since the reëxport of foreign goods, for example, is excluded from our basic statistics beforehand, a proportional allocation of imported commodities to exports has little sense, even in those instances in which they are being spread among all other — i.e. domestic — users in direct proportion with the similar products of domestic origin.

Considerations developed above in relation to imports apply also to the allocation of domestic trade services, i.e. the distribution of trade margins. These can be charged to the industry, the product of which is being handled by trade, or they can be allocated directly to the industry purchasing these products. In the first instance, for example, the charge from Trade to the Ferrous Metals industry would comprise the total trade margins realized on all the Ferrous Metals sales; in the second, it would show the aggregate margins paid by the Ferrous Metals industry on all its purchases.

Table I shows the input-output relationships of the American economy of 1939 with all imports charged directly to the consuming and all Trade margins directly to the purchasing industries. Each one of the separate entries in the foreign trade — i.e. the imports — row represents a combination of all types of imports absorbed by the particular consuming industry. The heterogeneous nature of these import figures has no damaging influence on the results of our computations, so long as the technical input coefficients of all the various industries, as well as the import ratios of all the various types of commodities are known, i.e. are considered as given.

Every variation in world market conditions, every change in the import duties or quotas can have some effect on the share of competitive imports of any particular kind of commodity in its total domestic supply. The highly complex nature of the causal relationships involved makes impractical any attempt to introduce

them explicitly in our theoretical set-up, i.e. to treat the import coefficients as dependent variables. While considering them as given, one still can investigate the effects of the possible changes of such coefficients. It is in this sense that the question could be asked: "How will the output and employment in all the different branches of the national economy be affected by a shift from imported commodities to corresponding domestic products?"

Given a complete set of input coefficients describing the technical structure of all the branches of the national economy, it is possible to compute how much additional output and employment would result in all the different industries from increased ultimate demand for the product of any one of them.

The definition of "ultimate" demand, as well as the corresponding definition of "derived" output and employment, is obviously relative. From the point of view of entirely comprehensive general equilibrium approach, all demand is derived and none is ultimate, i.e. independent: the size of consumers' purchases is determined through their double connection with the rest of the economic system via

(*a*) the direct and indirect demand for labor services, generated by a given consumers' and net investment bill of goods, conditioned by the technical structure of the system, and described by the given technical set of input coefficients.

(*b*) the relationship, established via the income flow, between the level of employment and the demand for all the various types of consumers' and investment goods.

It is the conscious omission of the second set of relationships which enables us to ask: "How much employment will correspond to any *given* level of domestic consumers' and investment demand?" The answer to this question represents nothing but a quantitative description of the first (*a*) type of relationships. In every particular instance it can be computed from a known set of technical input coefficients of all the different branches of the national economy. Exports enter these calculations as inputs of the "Foreign Trade" industry; the structure of this industry is described by a series of technical coefficients, each of which shows the amount of exports of one particular type of commodity or service required — according to the prevailing conditions on the

world markets — to "produce," i.e. to obtain one unit of imports.[3] In the older — now unfashionable — terminology, the amounts of commodities and services which a country has to export in order to secure a unit of imports were referred to as its "terms of foreign trade."

Viewed as an intermediate link in the chain of industrial interrelationships, exports cannot be treated as an element of final demand. The question "How much output and employment is created by a given amount of exports?" is inadmissible in this context, since the exports themselves are not "given" but rather derived from a given bill of domestic demand.

In contemporary economic discussion, exports are frequently treated as an independent variable, that is, they are considered to be a part of the final bill of goods. A combination of institutional changes, most of which took place since the First World War, has indeed brought about what might be called an autonomy of exports. Governmental loans to foreign countries, gold imports of unprecedented volume supplemented by various exchange stabilization devices, and lately the lend-lease arrangements have weakened the close quid pro quo relationship which hitherto has been supposed to exist between the size of the imports of a country and the level of its exports, to such an extent that in many instances it became practically nonexistent.

The problems involved in the treatment of exports as an independent variable are analogous to those discussed above (p. 174) in connection with the treatment of domestic household and investment purchases as final demand. In both instances, a relationship which otherwise uniquely determines the magnitude of the variable in question is deliberately omitted from consideration, and thus this particular variable becomes free and independent. In the case of domestic demand, the omitted relationship is that between the level of employment and income, on the one hand, and the corresponding level of consumers' demand and of net investment, on the other; in the case of foreign trade, it is the direct input-output relationship, the terms of trade, between imports and exports.

3. The amounts referred to are physical amounts, or indexes of physical amounts. For reasons of operational convenience, the physical unit of any given commodity, or any given combination of commodities, can be defined as "the amount purchasable for one million dollars at the prices of some given year, say 1939."

If both the domestic consumers' and investment demand, as well as the exports, are viewed as the independent variables of our system, the two can be merged in a single magnitude of final demand. An increase of this combined bill of goods, say by one thousand tons of coal — be it caused by increased domestic household purchases, by additional exports, or by any combination of the two — will affect output and employment in all the different branches of the domestic economy in one definite way. So long as both are treated as independent variables, the employment coefficients of exports (i.e. additional employment required per unit of specific exports) are identical with the corresponding employment coefficients of the domestic households and investment demand.

Two distinct approaches to the analysis of exports in their relation to the domestic economy in general and to domestic households and investment demand in particular have been discussed above. In the first,[4] only the domestic household purchases and all the investment demand are entered into the final bill of goods. Exports, "hitched on" to the import requirements through a set of given input-output coefficients (the "terms of trade"), are — along with the output and employment figures of all domestic industries — accounted for among the other dependent variables of the system. According to the second approach, terms of trade relationships are omitted from consideration, and the export demand is included in the final, independent bill of goods alongside the "free" domestic consumers' and investment demand.

To these can be added a third case. Here only the exports are treated as an independent variable, the domestic demand being relegated to the status of dependence. This is achieved through reintroduction of the previously omitted domestic employment-income-consumption relationship (see p. 174, above). The employment figures computed from this point of view show more than the *primary* demand for labor *directly* and *indirectly* derived from the given export bill of goods on the basis of existing interindustrial relationships. They also include the *secondary* employment *directly* and *indirectly* dependent upon the additional household demand resulting — via the income flow — from the higher level of primary employment.

4. Discussed in detail in the previously cited article.

Instead of being included in toto in the final bill of goods, exports, for purposes of a certain type of analysis, can be conveniently split into two parts — independent exports and the dependent exports. The latter are taken to be subject to the quid pro quo relationship of the international net terms of trade, while the former are free and thus independently given. In contemplating the possible consequences of various foreign lending and lend-lease policies, it might be well to consider the exports "given away" on credit as an independent variable, but at the same time take into account the fact that additional, dependent exports must pay for imports required — in accordance with the existing import ratios of foreign goods — for maintenance of expanded domestic production and consumption.

The distinction between independent-primary and dependent-secondary exports has its counterpart in the separation of domestic investment from household consumption. From the point of view of a certain type of analysis (and policy), the latter constitutes a dependent set of variables linked up to the rest of the system through given employment-income-consumption relationships, while the former — through omission of "investment determining" relationships — is entered into a given final bill of goods.

Thus in this fourth and last type of approach to be considered in this paper, neither the domestic household consumption nor that part of exports which is used to pay for the imports are entered into the final bill of goods. This means that both the domestic-employment-income-consumption relationships and the terms of foreign trade relationships are included among the given structural data of the problem and only the export surplus is treated as the independent demand factor.

The basic operational distinction between the different possible approaches to the analysis of exports in their relation to the other elements of the economic system has been elucidated above in terms of inclusion of household consumption, investment, exports and export surpluses, etc., in the set of dependent or, alternatively, in the group of independent variables of our theoretical system. A closer examination of the foregoing analysis shows, however, that it is really the description of the quantitative interrelationships connecting the dependent variables of the system with each other and with the given bill of goods — not the exact enumeration of all the various kinds of economic variables

of which any given bill of goods is actually composed — which makes it possible to distinguish one type of theoretical approach from another. Each dependent variable is identified through the peculiar relationships which connect it with the rest of the system, a combination of relationships which distinguishes it from any other dependent variable as well as from the set of all the *in*dependent variables (i.e. from the bill of goods). A change in the theoretical approach which removes a variable from the former and transfers it to the latter set causes it to lose most of its individual characteristics. When counted among the dependent variables, for example, exports or domestic consumption are clearly distinguishable from each other, and have to be treated as separate entities; once included in the given independent bill of goods, they become indistinguishable. Exports of an additional million dollars' worth of textiles will — from the point of view of an approach which treats both as final demand — affect the rest of the system exactly in the same way as an equivalent amount of textiles absorbed in domestic household consumption. As a matter of fact, any million dollars' worth of textiles absorbed within the economic system, but not explicitly identified with any one of the variables treated as dependent will — be it invested at home, purchased by the Government or simply dumped into the sea — have the same effect on outputs and employment. In short, any independent demand otherwise unspecified would affect the dependent variables of the economic system in the same way as any other physically similar elements explicitly included in the independent, final demand. This explains why an empirical study aimed at establishment of quantitative relationships between the final demand and the outputs and employment dependent upon it could, strictly speaking, content itself with a purely negative definition of final demand as including all demand not explicitly listed as dependent.

II

Before they can be applied to the analysis of actual statistical data, the results of the foregoing theoretical discussion must be formulated in precise quantitative terms. To avoid unnecessary repetition, the general theoretical formulae fully developed in the previous article will be referred to below without detailed interpretation. As before $X_1, X_2, \cdots, X_j, \cdots, X_m, X_n$ represent the total net outputs of all the various branches of the national

economy; X_n is the figure of total employment (the "labor" output of households); X_f stands for aggregate imports; x_{ik} indicates the amount of the product of industry k used in industry i: $x_{1f}, x_{2f} \cdots$, for example, are the amounts of imports absorbed by industry 1, industry 2, etc.; a_{ik} is the coefficient describing the use of commodity k by industry i, per unit of its total output: $a_{ik} \equiv \dfrac{x_{ik}}{X_i}$. Thus, $a_{1f}, a_{2f} \cdots$ are the import coefficients of industry 1, industry 2, etc.; $a_{1n}, a_{2n} \cdots$ are the employment (labor input) coefficients of industry 1, industry 2, etc. The labor input coefficient of foreign trade, a_{fn}, for obvious reasons equals zero.

The structurally determined system of interindustrial relationships can be described by m equations of the following type:

$$\text{(III)} \quad -a_{1k}X_1 - a_{2k}X_2 - \cdots - a_{fk}X_f - \cdots + X_k - \cdots - a_{mk}X_m \equiv D_k$$
$$(k = 1, 2, \cdots, f, \cdots, m)$$

$D_1, D_2, \cdots, D_k, \cdots, D_m$ are the separate components of the final bill of goods, here defined as comprising domestic household consumption as well as domestic and foreign investment.

If solved for the dependent variables $X_1, X_2, \cdots, X_m$ in terms of a given bill of goods, the system leads to the following expression:

$$\text{(IV)} \quad X_k = {}_{nn}A_{k1}D_1 + {}_{nn}A_{k2}D_2 + \cdots + {}_{nn}A_{kf}D_f + \cdots + {}_{nn}A_{kk}D_k + \cdots + {}_{nn}A_{km}D_m$$
$$(k = 1, 2, \cdots, f, \cdots, m)$$

Inserting on the right-hand side the given bill of goods, i.e. the given numerical magnitudes of $D_1, D_2 \cdots$, it is now possible to compute the total output $X_1, X_2 \cdots$ of all the various industries.

Each of the capital A's appearing in (IV) obviously depends in its magnitude upon the technical input coefficients — the small a's — entered on the left-hand side of equations (III).[5] The

5. If D represents the determinant

$$\begin{vmatrix} 1- & a_{21} & -a_{31} & \cdots & -a_{m1} & -a_{n1} \\ -a_{12} & 1 & -a_{32} & \cdots & -a_{m2} & -a_{n2} \\ -a_{13} & -a_{23} & 1 & \cdots & -a & -a_{n3} \\ & & & & & \\ -a_{1m} & -a_{2m} & -a_{3m} & \cdots & 1 & -a_{nm} \\ -a_{1n} & -a_{2n} & -a_{3n} & \cdots & -a_{mn} & 1 \end{vmatrix}$$

while D_{nn} stands for the algebraic complement (minor) of element $-a_{nn}$, and $D_{nn \cdot ik}$ for the algebraic complement of the two elements $-a_{nn}$ and $-a_{ik}$ then ${}_{nn}A_{ik} = \dfrac{D_{nn \cdot ik}}{D_{nn}}$.

subscripts nn on the left of all the A's indicate that no technical coefficients describing the output or the input of the industry n (households) enter in the computation of these constants.

Exports are treated here as dependent variables. This is indicated by the fact that the terms $a_{f1} X_f$, $a_{f2} X_f$, $\cdots$ describing the dependence of exports upon the imports X_f appear on the left-hand side of structural equation (III).

Employment figures for all the separate industries can be computed by multiplying the previously obtained output figures by the corresponding labor input coefficients:

$$\text{(V)}\ x_{kn} = a_{kn} X_k = a_{kn\ nn}A_{k1}D_1 + a_{kn\ nn}A_{k2}D_2 + \cdots + a_{kn\ nn}A_{km}D_m \qquad (k=1, 2, \cdots, f, \cdots, m)$$

Every widening of the bill-of-goods concept finds its mathematical expression in the transfer of the corresponding variables from the left to the right side of equations in System (III). The accompanying omission of certain relationships — an omission which has been shown to be the logical prerequisite of every transfer of a variable from the category of dependent into that of independent, i.e. given magnitudes — finds its expression in the elimination of the corresponding equations from System (III). On the other hand, every narrowing of the bill-of-goods concept means the introduction of new independent variables on the left-hand side and addition of new equations.

The discussion of particular cases might begin with case 2, in which not only domestic household consumption and investment but also all the exports are included in the final bill of goods. The addition of exports to the list of independent variables means that the expressions $a_{fk}X_f$ describing the dependence of exports of all the different kinds of products ($k=1, 2, \cdots, m$) upon the magnitude of total imports X_f must be transferred from the left to the right side of System (III). As elements of a given bill of goods, these exports become, as has been explained above, indistinguishable from the similar commodities (used in domestic household consumption and investment) already included in it: they must be considered now as being included in D_1, D_2, $\cdots$.

The fth equation ($k=f$) in System (III) has to be eliminated, since the "terms of trade" relationships, to which it gives — in combination with the suppressed terms in other equations — a quantitative expression, are now dropped from consideration.

Thus a new, reduced system of $m-1$ basic structural equations is obtained:

$$\text{(VI)}\quad -a_{1k}X_1-a_{2k}X_2-\cdots-a_{f-1\,k}X_{f-1}-a_{f+1\,k}X_{f+1}-\cdots$$
$$+X_k-\cdots-a_{mk}X_m=D_k$$
$$(k=1,2,\cdots,f-1,f+1,\cdots,m)$$

The simultaneous solution of these equations leads to $m-1$ expressions analogous to (IV):

$$\text{(VII)}\quad X_k={}_{nn\cdot ff}A_{k1}D_1+{}_{nn\cdot ff}A_{k2}D_2+\cdots+{}_{nn\cdot ff}A_{k\,f-1}D_{f-1}$$
$$+{}_{nn\cdot ff}A_{k\,f+1}D_{f+1}+\cdots+{}_{nn\cdot ff}A_{km}D_m$$
$$(k=1,2,\cdots,f-1,f+1,\cdots,m)$$

The subscript $nn\cdot ff$ attached to each A indicates that both the technical coefficients describing the inputs and outputs of industry n (households), as well as those related to industry f (foreign trade), do not enter into the computation of these constants.[6]

Employment figures for all the separate industries can be derived from the following expressions analogous to (V) above:

$$\text{(VIII)}\quad x_{kn}=a_{kn}X_k=a_{kn}\,{}_{nn\cdot ff}A_{k1}D_1+a_{kn}\,{}_{nn\cdot ff}A_{k2}D_2+\cdots$$
$$+a_{kn}\,{}_{nn\cdot ff}A_{k\,f-1}D_{f-1}+a_{kn}\,{}_{nn\cdot ff}A_{k\,f+1}D_{f+1}+\cdots$$
$$+a_{kn}\,{}_{nn\cdot ff}A_{km}D_m$$
$$(k=1,2,\cdots,f-1,f+2,\cdots,m)$$

To determine by how much the total employment will increase from the addition to the given bill of goods of one unit of commodity k, it is necessary to sum up the coefficients of D_k in all the $m-1$ equations in (VIII):

$$\text{(IX)}\quad a_{1n}\,{}_{nn\cdot ff}A_{1k}+a_{2n}\,{}_{nn\cdot ff}A_{2k}+\cdots+a_{f-1\,n}\,{}_{nn\cdot ff}A_{f-1\,k}$$
$$+a_{f+1\,n}\,{}_{nn\cdot ff}A_{f+1\,k}+\cdots+a_{mn}\,{}_{nn\cdot ff}A_{mk}$$

Imports, X_f, have to be computed from the output figures in a separate operation:

$$\text{(X)}\quad x_{kf}=a_{kf}X_k$$
$$(k=1,2,\cdots,f-1,f+1,\cdots,m)$$

These equations, analogous to (VIII) above, determine the amount of foreign commodities absorbed by each separate industry. Summation of all these imports, supplemented by the amount D_f — if any — directly entered in the final bill of goods, gives the aggregate figure for the national economy as a whole.

6. In terms of determinantal notation (see footnote 5 above):

$${}_{nn\cdot ff}A_{ik}\equiv\frac{D_{nn\cdot ff\cdot ik}}{D_{nn\cdot ff}}$$

If exports and domestic investment alone are entered in the final bill of goods, D_1, $D_2 \cdots$, while domestic consumption is considered to be dependent upon domestic employment via income (case 3), the corresponding amounts of all the separate commodities x_{n1}, x_{n2}, $\cdots$, x_{nm} can be moved on the left-hand side of the basic system of structural equations. They appear there as functions of the total employment, X_n, i.e., as $a_{n1}X_n, a_{n2}X_2, \cdots a_{nm}X_m$. At the same time a new equation is added to the system:

$$\text{(XI)} \quad -a_{n1}X_1 - a_{n2}X_2 - \cdots - a_{n\,f-1}X_{f-1} - a_{n\,f+1}X_{f+1} - \cdots - X_{nm}X_m + X_n = D_n.$$

It shows the relationships between the outputs of all the separate industries (exclusive of foreign trade), X_1, X_2, $\cdots$, total employment, X_n, and the amount of labor, if any, entered in the final bill of goods, D_n. The complete structural system thus consists of m equations of the following form:

$$\text{(XII)} \quad -a_{1k}X_1 - a_{2k}X_2 - \cdots - a_{f-1\,k}X_{f-1} - a_{f+1\,k}X_{f+1} - \cdots + X_k - \cdots - a_{mk}X_m - a_{nk}X_n = D_k$$
$$(k = 1, 2, \cdots, f-1, f+1, \cdots m, n)$$

and its solution similar to (IV) and (VII) is:

$$\text{(XIII)} \quad X_k = {}_{ff}A_{k1}D_1 + {}_{ff}A_{k2}D_2 + \cdots + {}_{ff}A_{k\,f-1}D_{f-1} + {}_{ff}A_{k\,f+1}D_{f+1} + \cdots + {}_{ff}A_{km}D_m + {}_{ff}A_{kn}D_n$$
$$(k = 1, 2, \cdots, f-1, f+1, \cdots, m, n)$$

The subscript ff under the A's indicates that no input coefficients related to foreign trade affect the magnitude of these constants. The absence of the subscript nn, on the other hand, signifies that the labor input and the household consumption coefficients do enter into their computation.[7]

The last of the expressions in set (XIII) determines directly the magnitude of total employment X_n. The imports figure might be obtained separately on the basis of import relationships similar to (X), above.

If both the domestic employment-consumption relationships and the international terms of trade relationships are taken into consideration, only investment — domestic and foreign — can be entered in the final bill of goods. In this case both employment,

7. In terms of determinantal notation (see footnotes 5 and 6, above)

$${}_{ff}A_{ik} = \frac{D_{ff \cdot ik}}{D_{ff}}$$

X_n, and imports, X_f, must be included as dependent variables on the left-hand side of the basic structural equations, and the number of these equations is increased to n. The computational formula is similar to those developed above; it is even simpler, since the enlarged set of the n equations includes all the variables, which obviates the necessity of computing either employment X_n or imports X_f in separate operations:

$$\text{(XIV)}\quad X_k = A_{k1}D_1 + A_{k2}D_2 + \cdots + A_{kn}D_n \qquad (k=1, 2, \cdots, m, n)$$

The assumption of strict, direct proportionality between all the inputs and outputs implied by the use of constant production coefficients lends to our theoretical models a high degree of artificial rigidity. Some significant implications of this rigidity become apparent if one considers the extreme case in which the values of all the independent variables D_1, D_2, $\cdots$ representing the given bill of goods are assumed to be equal zero. All the outputs determined by either one of the three sets of linear equations (VII), (XIII) or (XIV) must then necessarily vanish.[8]

In the case represented by equation (VII), such a result appears to be quite reasonable — the given bill of goods includes in this instance the entire domestic consumption and investment, as well as all exports. If each of these items is reduced to zero, i.e. is entirely eliminated, all production and employment would naturally cease. In the other two cases, however, the given bill of goods does not include domestic household consumption — the latter being treated as a set of variables dependent on the level of employment. The conclusion that all employment and all production would vanish with cessation of exports and discontinuation of all domestic investment, in the one case, and with the disappearance of export surpluses and of domestic investment, in the other, is obviously contrary to all reasonable expectations.

Actually the employment-consumption relationship is not linear. If the consumption coefficients a_{n1}, a_{n2}, $\cdots$ do not remain constant, but rather increase with a fall in employment, a parallel reduction in the given bill of goods D_1, D_2 $\cdots$ will lead to a less than proportional fall in domestic consumption and employment, and even a complete elimination of the export and investment

8. The determinants $D_{nn \cdot ff}$, D_{ff} and D respectively are *not* equal to zero, since otherwise neither of the three systems could have a consistent solution with any of the D's being non-zero.

demand will result in a new equilibrium with positive production, employment and domestic household consumption.

The preceding considerations thus lead to the conclusion that in empirical application the computation formulae (XII) and (XIV) will most probably result in an overstatement of the employment and output dependent upon any given final demand, $D_1, D_2 \cdots$.

III

Table II shows the relationship between exports and employment in the United States in the last normal prewar year, 1939. The statistical data reproduced in Table I furnished the empirical base, while the general analysis developed in the first part of this article and summarized in the second supplied the theoretical foundation for the numerical computations, the results of which are shown in Table II. A separate computation and a different numerical answer correspond to each one of the three sets of theoretical assumptions (with some independent exports) presented above.

First, the entire exports are treated as a part of the final independently given demand, which includes also all household consumption and domestic investment. Imports are allowed to adjust themselves to the import requirements of all domestic industries, without any regard for the necessity of balancing them — in accordance with the existing international terms of trade — against the volume of exports. Computed on the basis of formulae (VII) and (VIII), the figures entered in column 6 of Table II show the *primary employment* dependent on the 1939 exports treated as a set of independent variables; i.e. they show — industry by industry — the reduction in employment which would result from discontinuance of all exports, on the assumption that domestic household consumption and investment remains unchanged. The same figures expressed as percentages of total 1939 employment in the corresponding industries are shown in column 7. Primary employment includes both persons engaged *directly* in production of the exported commodities and those whose jobs depend on the same exports *indirectly*, through production of materials and other inputs used, with or without intermediate steps, by the final export industries.

This distinction between direct and indirect primary employ-

ment is admittedly an arbitrary one. It must necessarily vary with every change in the industrial classification: the more detailed this classification becomes, i.e. the greater the breakdown of larger industries into separate sub-groups, the smaller will be the number of industries working directly for export and the larger the number of those depending on exports only in an indirect way.

It is mainly because of the ease with which the export ratios (i.e. the proportion of total output sold in foreign markets) can be statistically determined that this concept plays such a great rôle in discussion of the actual export dependence of various industries. In order to indicate the quantitative difference between the total *primary* employment and that part of it which, on the basis of the conventional approach, would be defined as *direct* export-dependent employment, the latter has been computed and is shown in column 4 and — in percentage terms — in column 5 of our table. The corresponding measure of indirect primary employment would be given by the difference between the entries of column 6 and column 4, or column 7 and column 5, respectively.

In the next computation, the assumption of independent, i.e. fixed, household consumption is dropped. The domestic demand for consumers' goods is made to vary in direct proportion to the level of total employment. Thus the figures entered in column 8 show all the employment which would be lost with the elimination of all the exports, if the domestic household demand for consumption goods were to fall off in proportion to the aggregate reduction in employment. The difference between these figures (computed on the basis of formula (XII)) and the (direct and indirect) primary employment figures entered in column 6 constitutes what might be called *secondary* employment.

A reduction of exports would naturally affect, not only domestic output, but also the imports. The *primary* effect of a hypothetical elimination of all the 1939 exports (as computed from formulae (XII) and (X)) includes a loss of 122 million dollars' worth of imports; the corresponding *total effect*, encompassing also the secondary reduction in the domestic household demand, would be considerably larger. It implies an import reduction of 465 million dollars.

Since the actual 1939 imports amounted to 3700 million dollars, a very substantial import surplus would result in either case. Such a conclusion is not at all surprising, since both import

CHART I

AMOUNT OF EMPLOYMENT IN VARIOUS INDUSTRIES
DEPENDING ON EXPORTS IN 1939

unit: one thousand workers

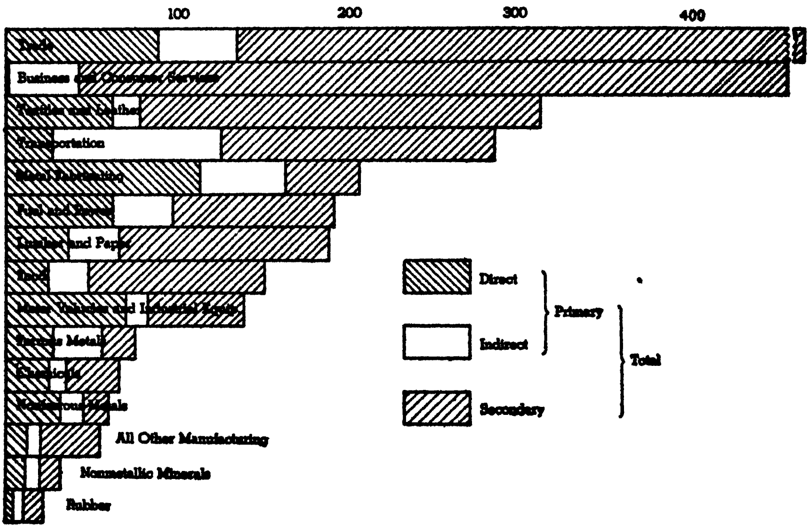
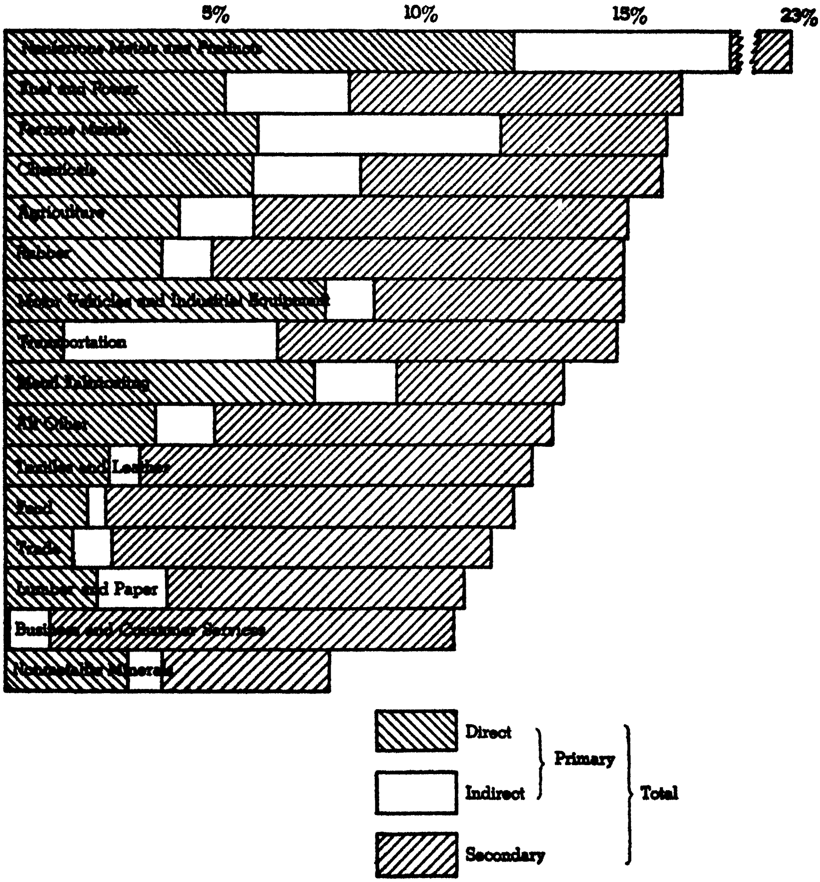


CHART II

EMPLOYMENT IN VARIOUS UNITED STATES INDUSTRIES DEPENDING ON 1939 EXPORTS EXPRESSED AS A PERCENTAGE OF THE TOTAL 1939 EMPLOYMENT IN THESE INDUSTRIES



effects are computed on the assumption that all exports are autonomous, an assumption implying the nonexistence of any definite international terms of trade relationship.

These observations lead to the third and last set of computations. Here the net terms of trade, i.e. the relationship between any given volume of imports and the corresponding amounts of goods and services which, according to the 1939 international price ratios, would have to be exported in order to pay for these imports, are introduced in our computational scheme (formula (XIV)), in addition to all other input-output relationships. Accordingly, instead of the total exports, only the export surplus — which in 1938 amounted to 188 million dollars — is treated as the really autonomous part of American exports. The independent bill of goods used in this computation is reproduced in column 10. The 188 million dollars are arbitrarily distributed between the different kinds of commodities in the same proportion in which these commodities participate in the total 1939 exports listed in column 3.

For reasons mentioned before (p. 183) the secondary employment included in the total export-dependent employment figures entered in columns 8 and 13 is somewhat overestimated. These figures must therefore be considered to represent the upper limits of the actual number of jobs dependent in the year 1939 on the American exports or export surpluses, respectively.

The four graphs drawn on the basis of Table II facilitate the examination of the quantitative results obtained. Agriculture is omitted from the two charts showing the absolute employment figures, since the noninclusion of self-employed farmers makes this particular figure unrepresentative; it is entered, however, in the other two charts, because the disparity disappears when the same effects are described in percentages of the 1939 employment in the respective industries.

The following general observations suggest themselves from the examination of these charts:

1. In terms of the absolute number of persons affected, the large industries — that is, the industries with greater total number of employees — show a greater dependence upon exports than the smaller ones.

2. What is commonly thought of as export-dependence of an industry can best be defined as a fraction of its total output or

CHART III

AMOUNT OF EMPLOYMENT IN VARIOUS INDUSTRIES
DEPENDING ON THE 1939 EXPORT SURPLUS (POSITIVE BALANCE OF TRADE)
The shaded parts represent Primary (Direct and Indirect) Employment

unit: one thousand workers

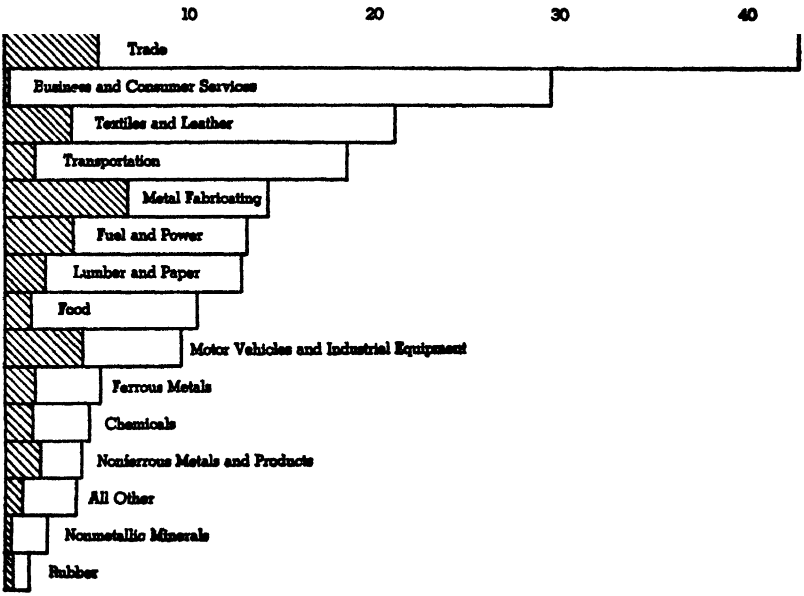
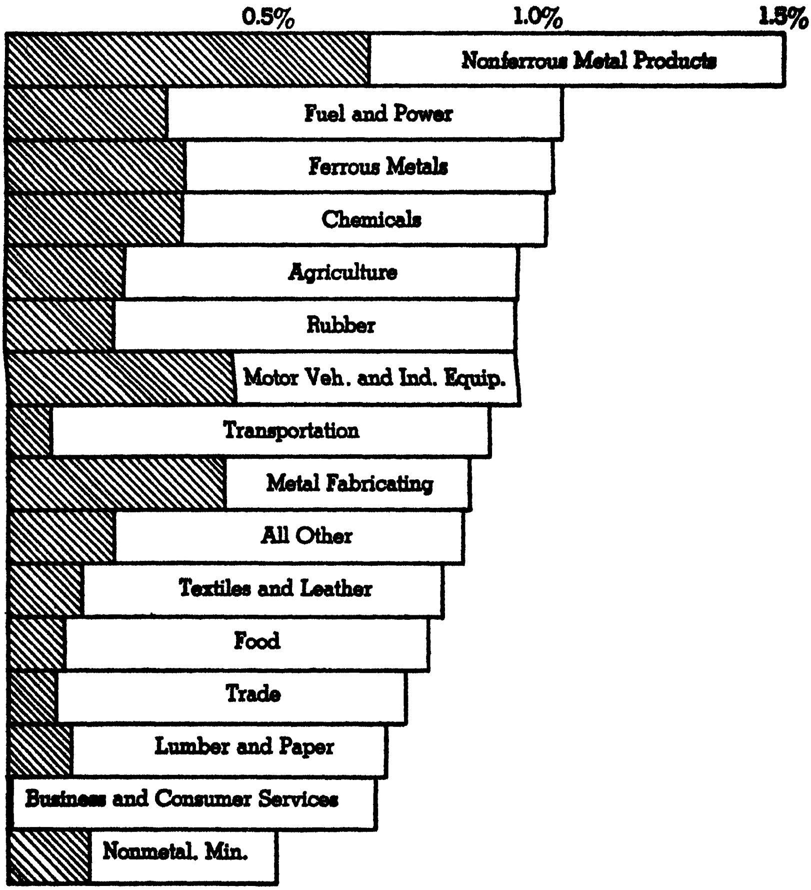


CHART IV

EMPLOYMENT IN VARIOUS UNITED STATES INDUSTRIES DEPENDING ON 1939 EXPORT SURPLUS (POSITIVE BALANCE OF TRADE) EXPRESSED AS A PERCENTAGE OF THE TOTAL 1939 EMPLOYMENT IN THESE INDUSTRIES

The shaded parts represent Primary (Direct and Indirect) employment



employment figure dependent upon exports. As should be expected, the ranking based on primary employment alone is very different from that which takes into account secondary employment also. The Fuel and Power industry, for example, stands next to the top, if the total, i.e. the primary and the secondary effects, are taken into account, but it occupies the sixth place on the basis of the primary effects alone. The Metal Fabricating industry shows the third largest primary reaction; but, due to a relatively weak secondary effect in its total export dependence, this industry stands below eight other industries.

3. Although much weaker in its absolute impact, the elimination of the 1939 export surplus, resulting in establishment of a perfectly even foreign trade balance, would result in a reaction pattern practically indistinguishable from that caused by elimination of all exports. The explanation is obvious: with both exports and imports ranking rather low among the inputs and outputs of American industries, the addition of the "terms of trade" relationship and introduction of the corresponding dependent exports items in all the other equilibrium equations can not modify significantly the structural characteristics of this economic system.

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APPENDIX

Classification of Industries for the Study of Inter-Industry Relations, 1939

1. Agriculture and Fishing
   1. Field crops
   2. Vegetables
   3. Fruits and nuts
   4. Horticultural specialties
   5. Forest products
   6. Dairy products
   7. Poultry and poultry products
   8. Livestock and livestock products
   9. Fishing
2. Food, Tobacco, and Kindred Products
   10. Flour and gristmill products
   11. Canning and preserving
   12. Bread and bakery products
   13. Sugar refining
   14. Starch and glucose products
   15. Alcoholic beverages
   16. Nonalcoholic beverages
   17. Tobacco manufacture
   18. Slaughtering and meat packing
   19. Manufactured dairy products
   20. Edible fats and oils, n.e.c.
   21. Other food products
3. Ferrous Metals
   22. Iron mining
   23. Blast furnaces
   24. Steel works and rolling mills
4. Motor Vehicles, Industrial and Heating Equipment
   31. Motor vehicles
   34. Industrial and heating equipment
5. Metal Fabricating
   25. Iron and steel foundry products
   26. Shipbuilding
   27. Firearms
   28. Munitions
   29. Agricultural machinery
   30. Engines and turbines
   32. Aircraft
   33. Transportation equipment, n.e.c.
   35. Machine tools
   36. Merchandising and service machines
   37. Electrical equipment, n.e.c.
   38. Iron and steel, n.e.c.
6. Nonferrous Metals and Their Products
   39. Nonferrous metal mining
   40. Smelting and refining of nonferrous metals
   41. Aluminum products
   42. Nonferrous metal manufactures
7. Nonmetallic Minerals and Their Products
   43. Nonmetallic mineral mining
   44. Nonmetallic mineral manufactures
8. Fuel and Power
   45. Petroleum and natural gas
   46. Petroleum refining
   47. Anthracite coal
   48. Bituminous coal
   49. Coke and manufactured solid fuel
   50. Manufactured gas
   52. Electric public utilities
9. Chemicals
   53. Chemicals
10. Lumber, Paper and Their Products, Printing and Publishing
    54. Lumber and timber products
    55. Furniture and other manufactures of wood
    56. Wood pulp, paper and paper products
    57. Printing and publishing
11. Textiles and Leather
    58. Cotton yarn and cloth

59. Silk and rayon products
60. Woolen and worsted manufactures
61. Clothing
62. Other textile products
63. Leather
64. Leather shoes
65. Leather products n.e.c.

12. Rubber
66. Rubber products

13. All Other Manufacturing
67. All other manufacturing

14. Construction
68. Building construction
69. Construction other than building

15. Transportation
71. Coastwise and inland water transportation
72. Transoceanic transportation
73. Steam railroad transportation
70. Transportation, n.e.c.

16. Trade
74. Trade

17. Foreign Countries
75. Foreign countries

18. Business and Consumer Services
51. Communications
76. Banking
77. Insurance
78. Business services other than advertising
79. Advertising
80. Services allied to transportation
81. Automotive repair and services
82. Repair services other than automotive
83. Rental agencies, other than building
84. Commercial building renting
85. Home renting
86. Hotels, tourist courts and camps
87. Laundries, etc.
88. Consumer services
90. Motion picture theatres
89. Other theatres, spectator sports
91 Amusement places

19. Households and Government
92. Government
94. Households

20. Unallocated and Stocks
93. Stocks
95. Unallocated

PRICE REGULATION IN THE PAPER INDUSTRY

SUMMARY

The industry: definition, 194; characteristics, 195; structure, 196; economies of scale, 197. — Price regulation from World War I to the N.R.A.: newsprint, 198; book paper, 200; other branches, 201. — Price regulation during the N.R.A.: the newsprint code, 203; the general paper code, 204. — Price regulation after the N.R.A.: prewar developments, 206; war-time control, 210. — Summary, 211. — Some pertinent questions: restriction of price competition, 212; effects of price competition, 215; public policy, 216.

During the last three decades there have been persistent attempts in many branches of the paper industry to restrict or to moderate the influence of competition. These attempts have taken the form of collusive agreements, associative action, price leadership, open-price filing, price zoning, and various other devices. It is the purpose of this paper to review these efforts at price regulation, to investigate their cause and, if possible, their effects, and to raise certain questions of public policy which should be considered in view of the facts presented.

The Industry

As used here, the term paper industry includes those establishments which manufacture paper and paperboard, but excludes firms engaged primarily in converting paper stock into paper products, such as bags, boxes, envelopes, labels, dishes, paper napkins, waxed paper, crepe paper, and wall paper, and also those establishments making only pulp. The principal types of product manufactured by the industry are newsprint, wrapping paper, book paper, writing paper, tissue paper, absorbent paper, building paper, container board, and box board. Because Canada supplies over two-thirds of the total American consumption of newsprint, and because there is a close financial tie-up of many American and Canadian firms, the newsprint section of the industry is here considered to include both American and Canadian mills. Newsprint enters the United States duty free, but other types of paper entering the United States are subject to a duty, and enter in relatively small quantities. Therefore, with respect to these other sections of the industry, only American mills are included.

Paper mills fall into two general categories: non-integrated mills, which purchase all or most of the pulp they convert into

paper; and integrated mills, which operate a pulp mill in conjunction with a paper mill and which, therefore, produce their own pulp requirements. The distinction between the two cannot be drawn sharply, since many mills purchase a part, sometimes a large part, of their pulp requirement.

The attempts to restrict price competition which have characterized the paper industry can best be explained in terms of its characteristics and structure. The industry has several characteristics which tend to intensify the effects of price competition and to make it unusually severe. Among these are: (1) heavy investment in equipment and slow investment turnover; (2) large actual or potential excess capacity; (3) inelastic demand for the product; and (4) in some branches of the industry little differentiation of product.

A modern newsprint mill requires a capital investment ranging from $25,000 to $40,000 per ton of daily capacity, or a total of $6,000,000 to $10,000,000 for an average-sized plant, the difference depending on whether investment is required in a power plant, dock facilities, railroad sidings, and the like. Unit fixed costs, including interest on investment in buildings, equipment, and timber holdings as well as depreciation, depletion, taxes, and insurance, represent a large proportion of the price of the finished product. In 1939, for example, these were estimated to average between 30 and 40 per cent of the cost of producing newsprint.[1] The investment in a wrapping paper, book paper, or paperboard mill is usually greater than that for a newsprint mill. In 1939 it averaged $45,000 per ton of daily capacity for all types of paper mills other than newsprint, and varied from $27,000 for non-integrated to $50,000 for integrated mills.[2] The rate of capital turnover is also relatively slow. Under normal conditions it averages once in twenty months.

Excess capacity, resulting partly from slowness of obsolescence, is a perpetual problem to the industry and one which intensifies the effect of competition. Paper machines have an unusually long life. The essential design of the two types in common use has not been changed since their invention nearly a century and a half ago, although their speed, size, and productivity have been greatly

1. John A. Guthrie, The Newsprint Paper Industry, Cambridge, pp. 176–177.

2. A Capital and Income Survey of the United States Pulp and Paper Industry, American Paper and Pulp Association, New York, 1944, p. 15.

increased. Since investment in a paper machine is large, the machine is not quickly scrapped. During depressions many are sold at bankrupt prices and thereafter reappear as strong competitors to expensive new equipment. This situation is further aggravated by the fact that machines used to produce one type of paper may, with small additional investment and relatively minor adjustments, be diverted to the production of other types of paper. In the United States, grade shifting from newsprint to book, writing, and other types of paper has continued steadily since 1911, when newsprint was first admitted duty free. This trend was greatly accelerated during the depression of the 'thirties. The result has been excess capacity in every branch of the industry. For the American industry as a whole, production did not exceed 83 per cent of capacity in any year from 1921 to 1939, and was frequently well below this figure. The average capacity at which the industry operated over the period was 75 per cent.

Price competition is also intensified by the fact that the demand for paper is inelastic. The cost of the newsprint paper used in publishing city newspapers is, on the average, only about one-fifth of the total cost of the newspaper. The demand for newspapers themselves is probably inelastic; hence the demand for newsprint is even more inelastic. A rise of 10 per cent in the price of newsprint will not ordinarily result in the publishers reducing their consumption by that amount. The demand for book, wrapping, or tissue paper is also inelastic. A substantial change in the price of book paper will not appreciably affect the price of a novel or a national magazine. An increase in the price of wrapping paper will not noticeably change the consumption of paper bags or the amount used as wrapping.

Some types of paper are practically undifferentiated. In a number of branches of the industry the product is sold to publishers and to converters without brand or trade name. Newsprint produced by one mill can be readily used to supply the customers of other newsprint mills. Kraft and certain other types of paper produced in one mill can likewise be substituted without much difficulty for the products of other mills. Other types of paper, however, particularly book and writing, are sold very largely on the basis of brands and trade names.

The structure of the industry most nearly approximates that of an oligopoly or series of related oligopolies. The total number of

mills or firms in the industry is greater than is customarily thought of as an oligopoly — in 1939 there were 472 mills and 377 firms in the United States and 38 newsprint mills and 30 newsprint firms in Canada. In the United States and Canada there were 63 newsprint mills owned by 53 firms. In the United States alone there were approximately 213 board mills owned by 177 firms; 87 writing paper mills owned by 73 firms; 84 wrapping paper mills owned by 78 firms; 75 tissue paper mills owned by 73 firms; 73 book paper mills owned by 57 firms; 34 building paper mills owned by 29 firms; and 21 absorbent paper mills owned by 21 firms.[3] Frequently no sharp distinction can be drawn between types of mills, since several kinds of paper may be produced in one mill. Newsprint and wrapping paper mills, however, often produce only one type of paper.

There is considerable variation in the size of paper mills, both within groups and between groups. Mills producing newsprint and wrapping paper tend to have the largest tonnage. Those producing newsprint primarily (or exclusively) range in size from 130 tons of paper per day to 800 tons. Those producing wrapping paper primarily vary from 40 tons per day to 500 tons. In general, the output of any one mill is sufficiently large to influence the prices and production policies of other mills producing the same product; on the other hand, no mill or firm is sufficiently large to exercise effective monopoly power in its group. Thus, the oligopolistic pattern characterizes the industry with reasonable accuracy.

The economies of scale are very considerable in the industry, particularly in the integrated mills producing the cheaper standard papers. A 250-ton newsprint mill, for example, is generally considered to be the smallest mill which it is economically feasible to build and operate.[4] In all paper manufacturing the economies of size are important, since they reduce appreciably the cost of purchasing or producing pulp and other raw materials and also of manufacturing and selling the final product. Small mills are almost invariably at a cost disadvantage in producing, purchasing, and selling, and they generally are the first to be forced out of the in-

3. Lockwood's Directory of the Paper and Allied Trades, 1940, New York, 1940.

4. A few relatively old newsprint mills which are smaller than 250 tons per day continue to operate. Most of these produce other types of paper also.

dustry. The trend has been consistently in the direction of larger and larger producing units, and this trend would appear to have a sound economic basis.

In view of the characteristics and structure of the paper industry it is not surprising that its price policy has frequently been directed towards curbing or reducing price competition.

Price Regulation from World War I to the N.R.A.

Newsprint. Among paper manufacturers, newsprint producers have probably been the most active and the most consistent in their efforts to reduce price competition, and some, though by no means all, of these attempts have been challenged in the courts as an infringement of the anti-trust laws. One of the first of such attempts to be investigated by federal anti-trust agencies was that made in 1916. The Federal Trade Commission was requested by Congress to inquire into the increase in the price of newsprint and to ascertain whether newspaper publishers, especially small publishers, were being subjected to unfair practices. The Commission found that prices had been increased in the year 1917 more than could be justified by increased cost; that the increase had been due, in part, to the restriction of competition by important manufacturers in Canada and the United States; and that the News-Print Manufacturers Association, by encouraging concerted action of its members, influenced and aggravated conditions of supply in the market and thereby induced an inordinate rise in price.[5] As a result of the findings of the Commission, a petition was filed against members of the Association and a consent decree was signed dissolving it. As a further result of the Commission's investigation, seven newsprint manufacturers were indicted under the Sherman Act, five of whom pleaded *nolo contendere* and paid fines totaling $11,000.[6]

Thereafter (until late in the 1930's), newsprint manufacturers were not involved in any further anti-trust litigation. Price leadership was the principal method used to moderate the effect of price competition. The practice developed after World War I of accepting International Paper Company, the largest firm in the industry,

5. Report of the Federal Trade Commission on the Newsprint Paper Industry, Washington, D. C., 1917, p. 134.

6. U. S. vs. Mead et al, District Court of the United States, S. D. of New York, November 26, 1917 (1 D & J 637 and 1 D & J 860).

as the price leader for all mills east of the Rockies, including those in Canada. Crown Zellerbach Corporation, the dominant Pacific Coast firm, generally took the lead in the far West. The position of International as price leader remained virtually unchallenged during the 'twenties; but as the depression deepened, it held that position with increasing difficulty, and subsequently (from 1935 to 1937) it was forced to relinquish its lead.

Besides observing the practice of price leadership, Canadian producers made other efforts to stabilize the price of newsprint. The Newsprint Institute of Canada was formed in 1928 for the purpose of stabilizing prices through the control of production. The organization was unable to obtain the support of two large producers, including International; hence, its effect on price was relatively slight.[7]

The Provincial Governments of Quebec and Ontario also took an active part in 1928 in attempting to influence the price of newsprint. They supported the activities of the Newsprint Institute and put pressure on International to prevent it from lowering its price.[8] The American Newspaper Publishers' Association vigorously condemned the activities of the Institute and the provincial governments, and in 1930 the Federal Trade Commission was again asked to investigate the industry. As a result of its investigation the Commission concluded that no monopoly existed in the production of newsprint in the eastern part of the United States, but it pointed out that if the Newsprint Institute had existed in the United States, its activities would possibly have been in violation of the American anti-trust laws.[9]

Since 1928 price stability has also been fostered in the newsprint industry through the method of price quoting. Prior to 1916 prices were quoted f.o.b. publisher's pressroom, freight and cartage being assumed by the paper manufacturer.[1] Abnormal war-time conditions and the improved competitive position of paper mills resulted in part of the added cost of production being thrown on publishers. Following World War I, newsprint was sold f.o.b. mill, transportation being borne by the buyer. In 1928 International

7. Financial Post, Toronto, December 21, 1928.

8. Federal Trade Commission, Newsprint Paper Industry, 1930, pp. 41–42.

9. Federal Trade Commission, Newsprint Paper Industry, 1930, p. 115.

1. Report of the Federal Trade Commission on the News-print Paper Industry, 1917, p. 56.

Paper Company initiated a system of price zones and partial absorption of freight.[2] The United States east of the Mississippi River was divided into four zones with uniform prices within zones and differentials between them. In each zone the freight above a certain figure was paid by the mill. All other producers followed International's lead with little if any deviation.

The adoption of this new method of price quoting was the logical outcome of the increased pressure of competitive forces in the industry. Because of rapid expansion, excess capacity had reached sizable proportions. In order to limit price competition and to facilitate the detection of price cutting, a system of uniform prices within zones was adopted. At the same time, publishers, realizing their strategic bargaining power, were pressing for a further price reduction. This could be covertly granted by the method adopted, since freight absorption actually amounted to an additional reduction in price.

In 1929 the producers' policy of absorbing freight charges was extended to cover the full cost of transportation to destination.[3] The system was further modified in 1932, when International adopted the practice of charging $1 per ton less than the price in the base zone for all newsprint sold on contract in seaport cities. In 1933 under the N.R.A. a more elaborate system of zoning was set up.

Book Paper. The regulation of book paper prices has been similar in some respects to that of newsprint. In 1916 the Federal Trade Commission, while investigating the newsprint industry, was directed also to investigate the increase in the price of book paper. It found that the increase in the price of book paper, like that of newsprint, was greater than could be justified by increased costs. It also found that the concerted action of the members of the Bureau of Statistics of the Book Paper Manufacturers had resulted in an abnormal increase in prices.[4] As a result of this investigation the Commission ordered the dissolution of the Bureau of Statistics and enjoined the several members from engaging in any concerted action to enhance or bring about substantial uniformity in the price of bookpaper.[5] Thereafter, until

2. Federal Trade Commission, Newsprint Paper Industry, 1930, p. 37.
3. Ibid., p. 41.
4. Federal Trade Commission, Book Paper Industry, Washington, D. C., 1917, p. 85.
5. Federal Trade Commission, Order, Docket 17 (November, 1917).

the establishment of the N.R.A., there were apparently no further attempts on the part of the book paper manufacturers to restrain price competition. Price changes were made by individual companies without resort to concerted action; not even price leadership was practiced.[6]

As in the case of newsprint, the method of quoting book paper prices underwent a change after World War I. In 1916 nearly all of the book paper was sold for delivery at purchaser's sidewalk. Later a number of companies used the f.o.b. mill basis either entirely or in part.[7] As early as 1920, however, the S. D. Warren Company, one of the largest book paper producers, began selling on a uniform delivered price basis in eastern territory. The company also adopted a zone system for the Pacific Coast and southwestern territory and absorbed part of the freight to destination in these two areas. The reason given for the change was that on its nationally advertised mill-branded paper the company preferred to sell at a uniform price to printers located in different cities, so that they could "compete more equitably."[8] Several other companies adopted a similar system; but until the establishment of the N.R.A. no uniformity existed in the size of the zone or the amount of freight absorbed by the seller.

Prior to 1933 a number of other book paper manufacturers adopted price zoning because of increased competition from firms selling their nationally-advertised, branded paper; but until the drafting of the book paper code, the practice was not generally followed.

Other Branches. Data on price regulation prior to 1933 in other branches of the paper industry are fragmentary. Some restriction of price competition was achieved for a time through voluntary price reporting. In essence this plan consisted of each member reporting its prices to a trade association, which in turn made them known to the other members. The system was presumed to promote the effectiveness of competition by disseminating information and preventing secret rebates and concessions; in actual practice it probably had the effect of restricting price competition and of reducing the number of price changes, since com-

6. Book Paper Manufacturers' Association, Report of the Proceedings before the Federal Trade Commission, Docket No. 3760, 1940, pp. 762, 867, 1077, 1810.

7. Ibid., pp. 822, 1814, 1887, 1952.

8. Ibid., p. 1112.

petitors were well aware of each other's prices and could readily detect and bring pressure against price cutters.

Open-price reporting was employed by a few paper trade associations for a time prior to 1933. In the late 1920's members of the Binder Board Manufacturers' Association, the Cover Paper Manufacturers' Association, the Tissue Paper Manufacturers' Association, and the Writing Paper Manufacturers' Association began reporting to their associations the prices received on cash sales. These associations reported prices paid in individual sales without revealing the identity of the seller.[9] Price reporting, however, was not widely adopted and in most cases was of short duration.

Although the attempts to restrain price competition in the various branches of the industry appear to have been numerous, between World War I and the N.R.A., they actually involved only about one-quarter of the total number of firms in the industry. In 1929 there were approximately four hundred firms in the paper industry as here defined. Of this number about forty-five newsprint firms in Canada and the United States were practicing price leadership, and had adopted a system of price zoning. About one-third of them, those operating in Canada, were also at that time attempting to "stabilize" prices with the help of the Newsprint Institute of Canada and the provincial governments of Ontario and Quebec. Probably another fifty firms, members of the Binder Board Manufacturers' Association, the Cover Paper Manufacturers' Association, the Writing Paper Manufacturers' Association, were at that time practicing open-price reporting. No doubt other attempts at regulation were made and restrictions imposed which are not a matter of record. However, several branches of the industry were apparently allowing price competition to operate freely; and so far as can be ascertained, most branches had no restrictions during the major portion of the time. In at least one branch, that of newsprint, there was some evidence that, in spite of price leadership, price competition had not ceased to operate. Newsprint prices fell from about \$82 a ton f.o.b. New York in 1923 to \$40 in 1933, and a price war which threatened to bring the price to \$30 or lower was barely averted in 1933.[1]

9. Federal Trade Commission, Open-Price Trade Associations, Washington, D. C., 1929, pp. 400–402, 407, 432.

1. Financial Post, Toronto, April 28, 1933.

In summary, the situation up to 1933 was as follows. A rise in prices caused by increased demand and reduced supply of paper of all kinds during World War I provided a favorable opportunity for restraint and suppression of price competition in several branches of the industry. A series of investigations and indictments by the Federal Trade Commission and the Department of Justice between 1916 and 1921 appears to have resulted in the cessation of virtually all of these practices. Thereafter, some restraint was effected in a few branches by such devices as open-price filing, price zoning, and freight absorption. Only in newsprint was there any attempt to use price leadership to reduce competition. In several branches of the industry, apparently, no attempts were made to restrain competition.

Price Regulation During the N.R.A.

Under the N.R.A. price competition in the industry was very materially restricted. Open-price reporting was adopted, and prices were controlled through the establishment of zones, and by various other means. Terms of sales were carefully defined and regulated. Because of their special problems, newsprint producers drew up a separate code of their own. However, all other branches of the paper industry were included under the general code for paper.

The Newsprint Code. The first code submitted to the Administration by newsprint manufacturers contained clauses dealing with the collection of statistics, trade customs, and selling practices.[2] Members of the industry were required to furnish data on wage rates, sales, and prices. Trade customs and practices were carefully defined, and a chart showing price zones was submitted. Selling below cost was designated as an unfair method of competition. Two revisions were submitted before a considerably modified and much weakened final draft was signed by the President in November, 1933. In the final version no restrictions were put on selling below cost. The Code Authority could recommend measures for stabilizing the industry and eliminating unfair practices; but such recommendations were not incorporated in the code, and the trade customs adopted eliminated all mention of pricing methods, including the price zone map. In 1934 newsprint manufacturers attempted to get a supplemental code containing a

2. Paper Trade Journal, New York, July 20, 1933, p. 11.

proposed agreement between Canadian and United States manufacturers and a proviso that newsprint would not be sold below $41 a ton.[3] This supplemental code was vigorously attacked by newspaper publishers, who characterized it as a violation of the Sherman Anti-Trust Act.[4] It was not approved, and hence was never in effect.

Compared with the general code of the paper industry, the newsprint code had very little effect in restraining price competition. Largely because of the organized opposition of newspaper publishers, no vigorous price-regulating clauses were ever included in it.

The General Paper Code. The first general code written by the paper industry contained elaborate provisions governing employment, production control, and conditions of sale. Selling below cost and price discrimination were defined as unfair competition, and uniform methods of determining cost were defined. Open-price filing was provided for, and methods of price quotation, whether f.o.b. mill, delivered, or by zones, were to be determined by the respective branches of the industry included in the general code.[5]

The general code was revised four times before it was signed in November, 1933. As finally adopted, the regulation of prices and conditions of sale were less rigid than those in the first draft. Provision was made for the adoption of a uniform system of accounting and cost determination, and for the filing by all members of the industry of their prices and conditions of sale. No mention was made, however, of specific methods of price quoting. Sales were prohibited below the lower of two figures — the cost of production of the individual member or the lowest price filed by any other member.[6] The Paper Industry Authority was allowed to make recommendations concerning fair trade practices, restrictions on the creation of new manufacturing facilities, and on the shifting of such facilities to the production of other grades of paper. In addition to the general code, each branch of the industry submitted a divisional or subordinate code covering those matters applicable to it which were not covered in the general code.

3. Paper Trade Journal, January 25, 1934, p. 13.
4. Ibid., February 8, 1934, p. 11.
5. Paper Trade Journal, July 6, 1933, p. 13.
6. Paper Trade Journal, October 19, 1933, p. 18.

Several months after the signing of the general code, the paper industry drew up another revised code, much more comprehensive than any of the earlier drafts. It contained, in addition to the clauses in the general code already approved, provisions for price fixing under emergency conditions, and a lengthy statement of trade practices, including reference to price zones.[7] This supplementary code was discussed at a public hearing, but it had not been approved when the N.I.R.A. was declared unconstitutional in the Schechter case in May, 1935.

The two principal changes in price regulation brought about under the N.R.A. were the general adoption of price zoning and of open-price filing. Most branches of the industry adopted price zones, and twenty of the twenty-four divisions were using open-price filing in 1935.[8] Moreover, the increase in the amount of statistical data gathered, and the collaboration among producers necessary to achieve these objectives tended to reduce the amount of price competition in the industry.

The effect of the codes in restricting price competition was probably least in the newsprint branch. The newsprint code, as signed, contained fewer restrictions on price than the general code. In fact, price competition in newsprint was probably more severe for a few years after the N.R.A. than during the preceding period, as evidenced by the fact that between 1935 and 1937 International Paper Company was forced to relinquish its price leadership and, for several years, attempts by manufacturers to raise the price of newsprint above the depression low of $40 a ton met with little success.[9] The price remained at $40 from April, 1933, to December, 1935, and did not exceed $42.50 until January, 1938.

The code regulations relating to prices, costs and trade practices met with virtually universal approval by paper manufacturers, the reasons being that some restraint was placed on price competition and some freedom was granted from attack under anti-trust laws. In appraising the effects of the N.I.R.A. after it was declared unconstitutional, Mr. C. W. Boyce, secretary of the American Paper and Pulp Association, pointed out that, although it did not alter the anti-trust laws, it removed, for the vast majority

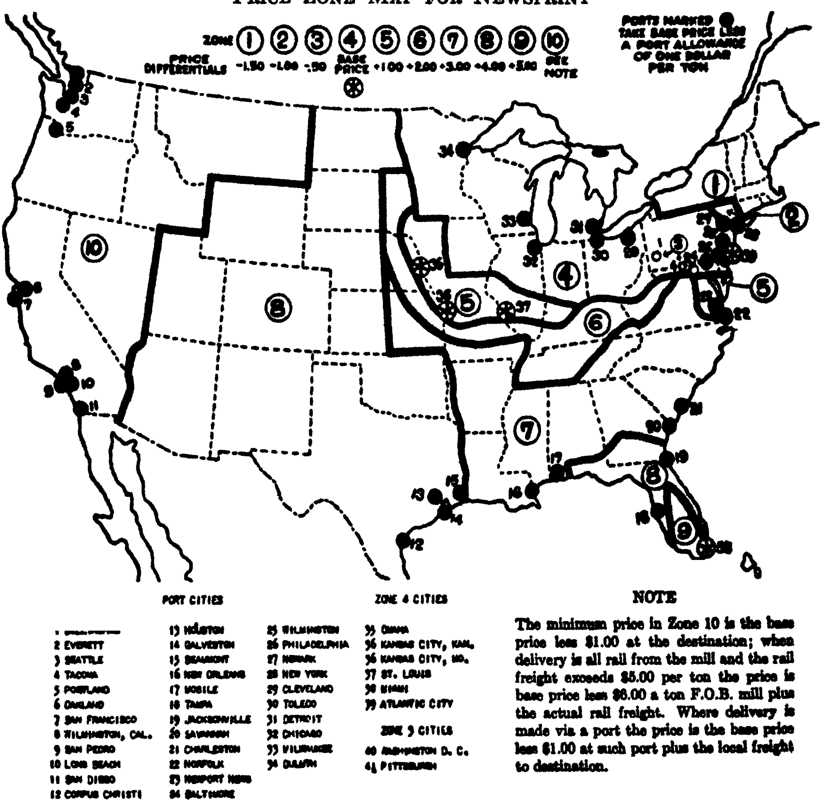
7. Paper Trade Journal, April 26, 1934, p. 11.
8. Ibid., January 17, 1935, p. 22.
9. John A. Guthrie, The Newsprint Paper Industry, pp. 110–111.

of producers, the fear of attack under these laws and resulted in manufacturers meeting openly to discuss their problems.[1]

Price Regulation After the N.R.A.

The immediate reaction to the decision in the Schechter case was an attempt by paper manufacturers to maintain through voluntary action the gains in price regulation achieved by the codes. Leaders in the industry urged voluntary compliance, and in this way general adherence to uniform price zones and trade practices was achieved. Price zone maps, which originated during the drafting of codes, continued to be used in the sale of newsprint, book, tissue, and many other types of paper. A newsprint price map devised during the early days of the N.R.A. (Figure I) con-

FIGURE I
Price Zone Map for Newsprint



1. Paper Trade Journal, June 13, 1935, p. 37.

tinued in use. On this the United States was divided into ten zones, with differentials between zones ranging from $1.50 per ton below the price in the base zone to $5 above the price in the base zone. For spot sales of book paper the United States was divided into four zones (Figure II). The differentials for zones 2, 3, and 4 were placed at 20 cents, 40 cents and 80 cents per hundredweight over the base price.[2] Wrapping paper and tissue paper were also sold on a zone basis. Prices for newsprint, book, and wrapping paper were quoted on an f.o.b. mill basis, with freight allowed; tissue paper was sold on a delivered basis. Fine paper, such as that used for writing, was sold on the basis of distributors' resale zones. These zones and the differentials between them were generally the same as for spot sales of book paper.

Open-price filing, on the other hand, apparently was not effectively maintained on a voluntary basis. In the case of book paper, for example, there were 604 price filings by members of the Book Paper Manufacturers' Association during the first six months of 1935, but in the succeeding six months (after the N.I.R.A. was declared unconstitutional) there were only 157; in the whole of 1936, only 82; in 1937, 76; in 1938, only 3.[3]

Following the Supreme Court's decision in the Schechter case, further attempts on the part of the industry to restrain price competition were largely prevented by resurgent anti-trust activities of the Department of Justice and the Federal Trade Commission. Many of the practices encouraged and even made compulsory under the codes were thereafter branded monopolistic and unduly restrictive of competition. The paper industry came in for its share of censure. The four companies producing newsprint on the Pacific Coast were indicted in 1939 on a charge of unlawfully combining and conspiring to fix, maintain, and control prices and terms of sale for newsprint.[4] After lengthy testimony the defendants in the case pleaded *nolo contendere* and paid fines amounting to $30,000.[5]

Members of the kraft paper branch of the industry became

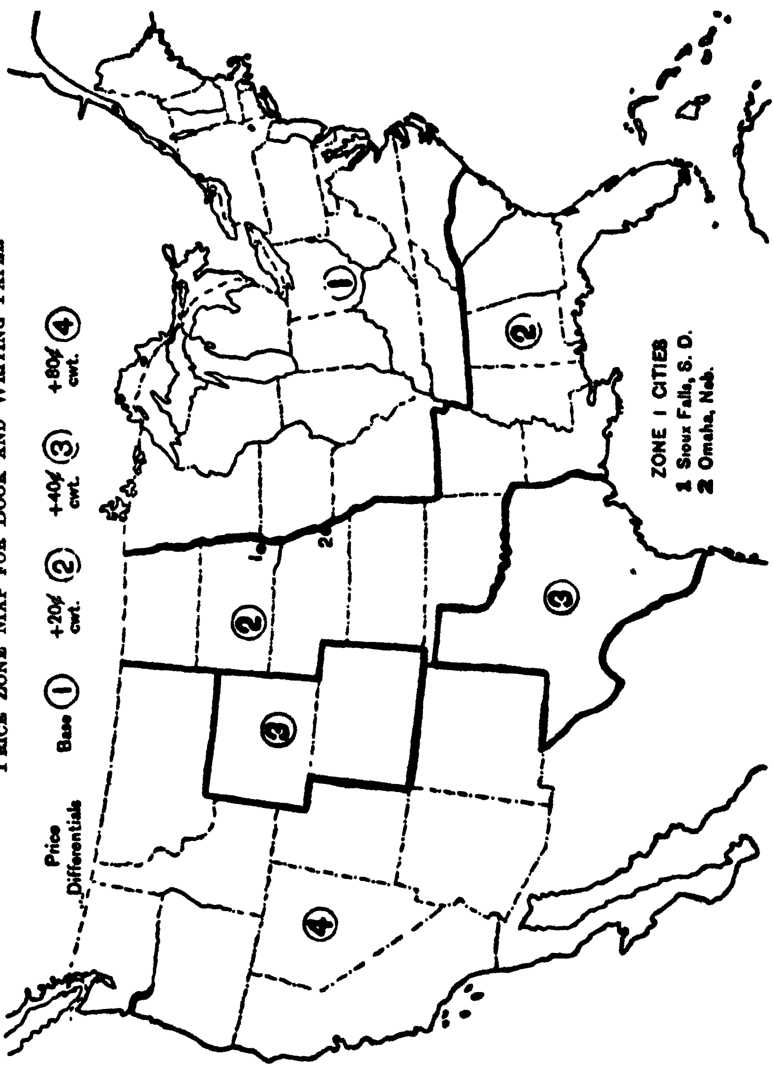
2. Newell W. Ellison, et al., Brief for Respondents, In the Matter of Allied Paper Mills et al., Docket No. 3760, Before the Federal Trade Commission, 1940, p. 26.

3. Ibid., p. 26.

4. U. S. vs. Crown Zellerbach Corporation, District Court of U.S., N. D. of Calif., Indictment, July, 1939.

5. New York Times, May 3, 1941, p. 9.

FIGURE II
PRICE ZONE MAP FOR BOOK AND WRITING PAPER



involved with the Department of Justice for the first time in 1939. The Kraft Paper Association and some thirty manufacturers were indicted on a charge of combining and conspiring to restrain trade and eliminate competition by curtailing the production of kraft paper and by apportioning its production among members of the association, thereby artificially maintaining prices.[6] The defendants subsequently consented to the entry of a decree enjoining them from further control or apportionment of production.[7] In this case no charge of price fixing was made.

The Federal Trade Commission after 1935 also assumed a more vigorous rôle in combating alleged restraint of competition. It issued a complaint in 1939 against the Book Paper Manufacturers' Association and its members, charging that they had entered into an agreement or conspiracy to restrict and suppress competition in the sale and distribution of book and similar papers. Specific charges were made that members had met and agreed upon prices, that price filing had been practiced, that uniform price zones and differentials had been established, and that trade customs and practices had been agreed upon.[8] According to the evidence presented, some of the book paper manufacturers undoubtedly conferred at times on price changes and probably agreed upon certain changes,[9] but the practice apparently was not general or widespread in this branch of the industry. Price filing, generally adhered to under the N.R.A., had virtually ceased when put on a voluntary basis.[1] Uniform differentials and trade customs had long been used in the industry as a matter of convenience, but were not necessarily adhered to rigidly. Price zoning had been widely adopted by manufacturers under the N.R.A. and its continuance had been a matter of convenience rather than of agreement or concerted action. The evidence clearly showed that in the book paper industry price changes had been instigated by many different sellers. These changes were generally followed by all sellers because of competitive pressure, often to levels below their respective costs of production.[2]

6. U. S. vs. Kraft Paper Assn., et al., District Court of the U. S., S. D. of N. Y., Indictment, July 20, 1939.

7. Ibid., Final Decree entered September 10, 1940.

8. Federal Trade Commission, Complaint, Docket 3760, 1939.

9. Federal Trade Commission, Docket 3760, Brief of Counsel for the Commission, pp. 14–23.

1. Newell W. Ellison, et al., Brief for Respondents, p. 17.

2. Ibid., p. 51.

On the whole, price regulation between 1935 and the beginning of present-day war-time control could be characterized as a continuation of, and gradual restriction of, practices started under the code. Price zones, trade customs, and differentials agreed upon by code authorities were in general retained. Price filing continued for a time on a voluntary basis, but was generally discontinued. The N.R.A. also encouraged the formation of trade associations, coöperative action among members, and discussion of common problems. This resulted in some associative action among manufacturers, which was vigorously challenged by the Department of Justice and by the Federal Trade Commission.

War-Time Price Control

The paper industry was one of the first to have its prices seriously affected by World War II. The cutting off of Scandinavian exports of pulp to this country in the spring of 1940 immediately caused an increase in the price of paper. In the summer of 1940 the Price Stabilization Division of the Council of National Defense acted to prevent any excessive price rise by calling together representatives of the industry and obtaining their assurances that unjustifiable price increases would be avoided. The successor to the Price Stabilization Division, the Office of Price Administration and Civilian Supply, took more specific steps in May, 1941, to prevent a rise in the price of kraft paper. It obtained an agreement from nine leading producers to hold prices on standard grades for the remainder of the year.[3]

Formal agreements were also obtained on waste paper and paperboard. During the summer of 1941 a number of voluntary agreements covering wood pulp, paper, and converted paper products were also made with manufacturers. These consisted of letters from the Office of Price Administration and Civilian Supply to paper manufacturers, either requesting them to maintain existing prices or notifying them that prices would be frozen as of a certain date.

In April, 1942, about two weeks before the General Maximum Price Regulation was issued, a ceiling was placed on newsprint.[4] With the issuance of the General Maximum Price Regulation, paper

3. Office of Price Administration, First Quarterly Report, Washington, D C., 1942, p. 172.

4. Office of Price Administration, Second Report, Washington, D. C., 1942, p. 154.

prices not previously fixed were brought under control. At the same time voluntary agreements previously entered into were formalized. Subsequent to the General Maximum Price Regulation, the O.P.A. embarked on a policy of taking out specific commodities from under the G.M.P.R. and constructing special regulations for each commodity. By the spring of 1945 over thirty of these special regulations had been issued for paper and paper products.

The method of quoting prices for newsprint and other paper and paper products approved by the O.P.A. was almost invariably that customarily used in the industry. Price zones and differentials used were accepted and adhered to. Thus, while the Department of Justice and the Federal Trade Commission were contesting the legality under the anti-trust laws of certain trade practices and methods of price quoting, the O.P.A. accepted these as the basis for price control.

Summary of Price Regulation

During the last three decades price competition in the paper industry has gone through several phases of intensity. During World War I and for a few years thereafter, conditions of demand and supply favored paper manufacturers. Prices rose rapidly, price agreements among sellers were fairly numerous, and price competition was frequently suppressed. Investigations and indictments by anti-trust agencies, together with a collapse of high prices in the early 1920's, resulted in the removal of most of these restrictions on price competition. Thereafter, voluntary measures to restrict competition, such as price leadership or price filing, were employed in a few branches of the industry. Their effectiveness, however, diminished markedly during the early years of the depression, as indicated by the fact that price leadership was maintained only with great difficulty and voluntary price-filing was discontinued.

The N.R.A. provided a tremendous stimulus to coöperative action. Price filing, price zones, and uniform trade customs were widely adopted. Production control was used to a limited extent. At the termination of the N.R.A. much of the coöperative effort among paper manufacturers was continued voluntarily, but the revived activities of Federal anti-trust agencies restored much of the previously existing price competition.

On the whole, it appears that, apart from present-day wartime price controls, effective restraint of price competition has not existed for any length of time in any branch of the paper industry. No firm or group of firms holds a dominant position in the industry, and competitive forces are such as to prevent any effective check being placed on price competition.

Some Pertinent Questions

In view of the facts presented several pertinent questions may be raised. Has there been excessive restriction of price competition? What have been the effects of price competition? Does past experience provide a guide to future public policy? Questions of this type are more easily raised than answered, but some light may be thrown on the issues involved.

Restriction of Price Competition. It is apparent that, except during the relatively brief period of the N.R.A., price restriction and regulation has generally not been practiced by the majority of firms in the industry. In 1939, a year in which the Department of Justice and the Federal Trade Commission were particularly active in their search for anti-trust infringements, some 78 firms were investigated by these agencies for alleged price fixing and production control. These represented only 20 per cent of the total 377 firms in the industry in the United States. Many other firms employed some form of price regulation or restriction, for price zoning was by that time fairly general. However, in total the amount of effective regulation was probably not great. Furthermore, prior to the N.R.A., restriction and regulation was probably less than in 1939.

The existence in an industry of profits above the average might be taken as evidence of effective restriction of price competition, although high profits might exist without such restriction, and low profits would not necessarily prove lack of restriction, being a reflection of over-investment or other maladjustments. In the paper industry it would appear that profits have generally been below the average of all manufacturing firms in the United States. As indicated by Table I, over a considerable number of years the percentage return on net worth has been less in the paper industry than in all manufacturing industries. This conclusion was borne out both by the data compiled by the National City

Bank of New York and by the Statistics of Income compiled by the Treasury Department.

The data in Table I are not strictly applicable to the paper industry as here defined, since they include firms producing paper, paper products, and pulp, and the figures compiled by the National City Bank include only a relatively small number of the firms in these categories. However, both sets of figures show rather clearly that returns in the industry have been below the average of all manufacturing firms.

A comparison of variations in the prices of paper with variations in prices of manufactured products also provides some evidence of the extent to which price competition has been suppressed in the industry. Suppression of price competition would tend to result in prices more stable than the average, although stable prices in themselves do not necessarily indicate a curbing of price competition.

TABLE I

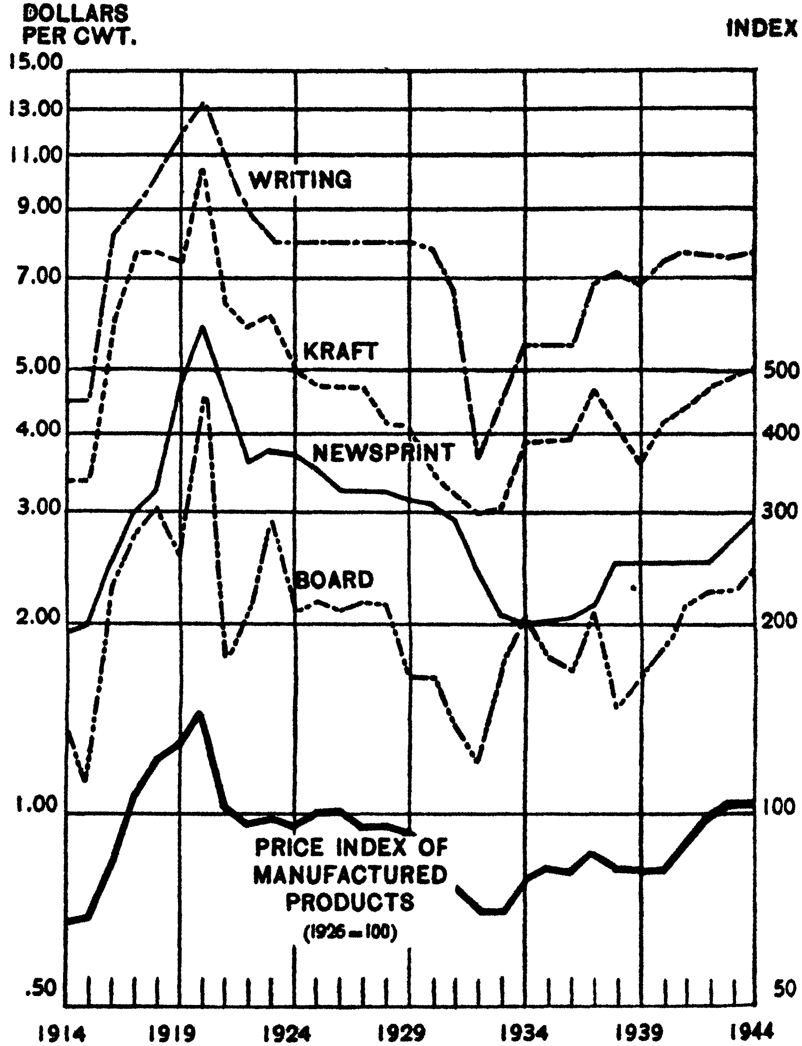
PERCENTAGE RATES OF NET INCOME AFTER TAXES TO NET WORTH IN THE PAPER INDUSTRY AND ALL MANUFACTURING INDUSTRIES

Year	Treasury Department[1]		National City Bank[2]	
	Paper, Pulp, and Allied Products	All Manufacturing Industries	Pulp and Paper Products	Total Manufacturing
1926	6.3	6.8	5.5	10.8
1927	6.1	5.4	6.2	9.0
1928	6.1	6.7	8.0	11.6
1929	5.1	7.3	12.0	12.8
1930	1.6	1.5	3.0	6.4
1931	−1.2	−2.1	−0.6	2.3
1932	−3.9	−4.3	−2.2	−0.5
1933	0.5	0.0	0.0	2.5
1934	2.6	1.9	2.6	4.3
1935	3.1	3.9	3.3	6.7
1936	5.8	8.0	4.0	10.4
1937	6.4	7.4	7.5	10.8
1938	2.1	2.9	3.0	4.8
1939	5.0	6.9	6.4	8.5
1940	7.6	8.5	9.6	10.3
1941	...	...	10.5	12.4
1942	...	...	7.6	10.1
1943	...	...	7.2	9.9
1944	...	...	7.3	9.8

[1] U. S. Treasury Department, Bureau of Internal Revenue, Statistics of Income, Government Printing Office, Washington, D. C. (Reports issued annually).
[2] National City Bank of New York, Economic Letter, August, 1945.

FIGURE III

Comparison of Variations in Prices of Paper and Prices of Manufactured Products



According to the data in Figure III, relative price changes in the important classes of paper have been of greater magnitude than those of all manufactured products.[5] This might result, in

5. Data on price changes in the paper industry taken from the Paper Trade Journal, New York.

part, from the fact that comparison is made between an average of prices and the prices of four individual products. Nevertheless, the data would appear also to indicate that price competition has not been effectively curbed in the paper industry. A comparison of frequency of price change similar to that shown in Figure III is not possible, but reference to monthly price data indicates that the prices of most types of paper changed frequently. Over the period considered (31 years) paperboard prices changed 138 times, kraft 95 times, newsprint 49 times, book paper (not shown in Figure III) 61 times, and writing paper 30 times. Judged, therefore, both by magnitude and frequency of change, paper prices have not been sufficiently stable to indicate effective control of price competition.

Effects of Price Competition. One undesirable result of price competition in the paper industry is the pressure exerted at times towards wasteful exploitation of timber resources. When demand for paper declines, high-cost mills, in order to gain business and prevent sharply increased unit fixed costs, are strongly tempted to make substantial price reductions. If widely resorted to, this may result in widespread financial disruption or collapse, such as occurred in the newsprint industry in Canada in 1932, when seven of the larger companies, controlling 58 per cent of the production capacity, had either gone into receivership, defaulted, or undergone voluntary reorganization.[6] In an attempt to stave off financial collapse, operators will resort to all possible measures, including stripping of their most accessible or best timber lands. The value of the less-well-located stands or poorer grades might thereby be reduced, so that the price of timber would never again be sufficient to cover the relatively high cost of cutting them alone, whereas if the better and more accessible timber had not been cut separately, the price could easily rise again to a point where it exceeded the marginal cost of cutting the poorer and better grades together. Actual evidence of this practice of cutting only the better timber is, of course, difficult to obtain. The extent of it, moreover, depends upon the type of ownership of timber resources. The writer has been informed, however, by a number of paper mill executives and foresters that "high grading" is frequently resorted to under the

6. C. P. Fell, "The Newsprint Industry," The Canadian Economy and its Problems, H. A. Innis and A. F. W. Plumbtre (Ed.), Toronto, 1934, pp. 50–51.

stress of low prices. Furthermore, reforestation and desirable conservation measures are largely discontinued and waste is increased under the pressure of depressed prices. The largest cut of timber occurs, of course, when prices are high. But the greatest amount of waste and the most destructive practices are usually associated with low prices. Unregulated price competition is frequently not in harmony with sound conservation policy.

Finally, destructive cutting of the choicest timberlands to ward off impending bankruptcy brought on by price wars may lead to the destruction of capital equipment and the abandonment of mill towns. A paper mill, deprived of its best timber stand, is usually unprofitable to operate and is likely, therefore, either to be abandoned, leaving a "ghost" town, or to be sold at bankrupt prices, thereby providing undesirably severe competition for other mills during critical periods of business depression.

The writer does not mean to suggest by the foregoing that he favors complete regulation of prices in this industry, or that collusive agreements for price-fixing should be allowed. Either might lead to exploitation of consumers, over-investment of capital, or other undesirable consequences which would be more harmful than those which might result from unregulated price competition. However, some compromise between entirely unregulated price competition and complete price regulation might be effected. Many drugs which are harmful if taken in excessive and unregulated quantities are beneficial when used in moderation and in controlled doses.

Public Policy. The foregoing discussion of the paper industry raises certain issues of public policy. In the interests of sound conservation some method should be found of preventing the wasteful cutting of timber resources. A discussion of that subject does not fall within the scope of this paper. However, it is pertinent to indicate here some of the methods by which this objective might be achieved, inasmuch as one of these would involve some modification of our present policy towards price regulation.

Wasteful exploitation of timber resources could be prevented through effective regulation and control of cutting operations. Federal and state legislation designed to eliminate wasteful practices and to insure that cut-over lands would be left in a productive condition might be passed. It is fairly obvious, however, that

the difficulty of obtaining effective legislation to control cutting on privately-owned timber lands would be considerable. Opposition from owners would probably be vigorous, especially in periods when the pressure of low prices became severe.

A second possibility would be to allow some *quid pro quo* to timber operators in return for voluntary compliance with approved practices designed to foster conservation. Soil conservation in agriculture has been promoted through the payment of cash benefits to farmers who agree to engage in certain soil-conserving practices. Timber owners could be encouraged by similar inducements to employ conservation measures. These subsidies might take the form of assistance in protecting stands from the hazards of fire or insects, or in bearing the cost of the conservation measures adopted.

A third possibility would be to encourage conservation practices by providing some shelter from the undesirable effects of price competition. Provision for open-price filing is one means by which price competition might be moderated. This was tried for a time by a few branches of the paper industry in the late 1920's, but was not widely adopted until made mandatory under the N.R.A. Continuation of the practice on a voluntary basis was quite generally advocated by paper manufacturers after the N.I.R.A. was declared unconstitutional, but it has been attacked by anti-trust agencies, and its legal status has apparently not been definitely established. Similarly, the status of uniform price zones has not been clearly defined. Establishment of the legality of these practices, either by an amendment to the relevant anti-trust laws or a definitive pronouncement by the courts, would do much to clear up the hesitancy which has surrounded their use.

Consideration of the paper industry also raises the question whether, as a means to encourage conservation through moderating the effects of price competition, the Sherman Act and other anti-trust laws might not be amended in their application to this and other industries which use exhaustible natural resources directly as their raw material, and which are peculiarly susceptible to the adverse effects of price competition. Industries of this type might well receive different treatment under the anti-trust laws, in order to encourage conservation of resources.

One possible procedure would be to amend the act, as it applies to resource-using industries, in such a way as to allow the courts

wide latitude in deciding what action to take in specific cases. A special anti-trust court, composed of lawyers, economists and other persons involved, might be set up to interpret the laws and to decide in specific instances whether price and production policies were fair and reasonable. Under such an arrangement the responsibility for price and production policies would rest primarily with private enterprise, but regulation of their action would be secured by the present anti-trust agencies and the usual processes of law.

To these three suggested methods of achieving conservation of timber resources others could undoubtedly be added. The writer does not venture to suggest which of them would be most effective or desirable for the paper industry. Much more investigation would need to be done before any recommendations of public policy could be made. Further study along the lines indicated, and probably others, would therefore seem to be desirable.

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DUES AND INITIATION FEES IN LABOR UNIONS[1]

Initiation fees, dues and assessments of a labor union determine the amount of expenditure a worker must make to join and to maintain his membership in a labor union.[2] In this respect, as in many others, wide variation is found in the practices of International unions, and even in locals belonging to the same International.

International unions derive all or part of their income from the following sources: charter fees, initiation and reinstatement fees, assessments and per capita taxes. In addition, some receive income from investments of their excess funds in property or government bonds. The greatest part of the revenue of an international union is, however, derived from the per capita tax, which is a definite amount paid by the local union to its International per member per month. In some unions the local is allowed to determine its initiation fees and dues, although frequently minima and sometimes maxima are specified. There are also unions which specify the dues their locals can charge. In others the discretion of the local is limited within a narrow range.

Generally, the older unions of skilled workers have the highest dues and initiation fees. The higher payments may be related to fraternal benefits, or may have arisen out of other circumstances. Many older unions of skilled workers, in addition to protective functions — collective bargaining — have maintained systems of benefits. Death benefits are the most common, but a number of unions also pay disability, old-age, and limited sickness benefits.

1. I am grateful to Professor E. E. Witte and Mr. James Healey for a number of helpful suggestions; also to the Social Science Research Council for a grant for research for this study.

2. Reinstatement fees for former members have not been dealt with, since they are not very important elements in the total situation. Usually reinstatement fees are higher than initiation fees.

Beneficial systems may be operated by the International, the locals, or independently of each other by both.

Some labor leaders have argued that with high dues and initiation fees a large treasury needed to support the union in difficult times could be built, while a low-dues union might not be able to sustain an attack. Frequently, but not always, high dues accompany high initiation fees. The latter have a dual objective. Older members are likely to contend that the new recruit — the "Johnny Come Lately"— should pay a high initiation fee, and thus bear some of the costs of raising the wage and working standards in the industry. A high initiation fee also has the effect of excluding many prospective applicants for membership, and thereby allows the union men to share a greater part of the available work.

Dues in AF of L Unions

Of the 354 local constitutions examined, 73 failed to specify the dues charged, and dues in 31 others were in whole or in part a percentage of weekly earnings, which makes the precise amount paid indeterminate. In considering dues per month, the total contribution made by the union member should be counted. Some unions specify a given amount as dues, and also require additional contributions by the membership for some particular purpose. Thus in some unions a member is obliged to pay a given sum as local dues and an additional amount to the International union. Other unions require a given amount plus a percentage of earnings for old-age and other benefits. For purposes of determining the level of monthly contributions imposed upon the individual member by his union, all regular payments, regardless of their purpose, have been considered.

Data on the level of dues are available for 250 locals. All, except nine brewery workers' locals, are affiliated with the American Federation of Labor.[3] Dues in the 250 locals ranged from 75 cents per month, charged by a local of brewery workers, to $7 per month, charged by a local of electricians. The modal unit was $2 per month, charged by 68 local unions; $3 per month, charged by 39 locals, was the next in importance. Third in importance was $2.50

3. Four are Federal locals. The others belong to the following unions: bakery, bookbinders, bricklayers, building service, carpenters, electricians, engravers, lathers, machinists, painters, plasterers, plumbers, printing pressmen, roofers, stereotypers, streetcarmen, teamsters and typographical workers (printers).

— the dues in 24 locals; $4 — the dues in 18 locals — followed; and $1.50 per month, required by 15 locals, was the fifth in rank. The distribution is shown in Table I. The median falls between $2.35 and $2.50 per month.

TABLE I

DUES IN 250 LOCAL UNIONS[1]

Amount of Dues Per Month		Number of Local Unions Charging
From	$.50	1
	1.00	6
	1.50	24
	2.00	81
	2.50	27
	3.00	54
	3.50	17
	4.00	21
	4.50	5
	5.00	10
	5.50	1
	6.00	1
	6.50	1
	7.00	1

[1] The local constitutions examined are of varying dates It is assumed that no important changes have been made in the data since they were deposited in several libraries in the years between 1940 and 1945

Bricklayers' and electricians' local unions have the highest dues. Dues in the bricklayers' locals range from $2.50 per month to $5 per month; in the electricians' locals, one "Class B" local — whose members do not receive old-age or death benefits — had dues of $1 per month, but in the others they ranged from $3 to $7 per month. Lowest dues were in the locals of the brewery workers, which do not operate a beneficiary system, in the locals of the building service employees, whose members are employed in a low-wage industry and which pay death benefits of only $100, and in the local unions of the streetcar men, which pay substantial death benefits.

While three locals of the painters' union charged dues of $5 per month, five charged only $1.50, and the majority required payment of $2.25 per month or less. Locals of both the photo-engravers' and plumbers' unions charged dues of $4.50, but in both instances dues in the majority of locals were below that amount. Dues in the photo-engravers' locals ranged from $2.50 to $4.50, and in the plumbers' union from $2 to $4.50 per month. Next to

the electricians, the printing pressmen showed the widest range in dues charged — from $2.35 to $6.50 per month. While none of the teamster locals charged less than $2 per month, few locals charged more than $3 per month.

INITIATION FEES

Initiation fees are a charge imposed upon newly admitted members into a union. Some unions specify that in addition to an initiation fee the applicant must pay a registration fee, or that in addition to a local fee one be paid to the International. From the point of view of the individual, the total amount constitutes the admittance or initiation fee; and in this paper all charges except regular dues assessments imposed upon an applicant as a condition of admittance to a union are regarded as the initiation fee.

Of the 354 local constitutions examined, 54 failed to specify their initiation fees. Initiation fees in the remaining 300 local unions ranged from $2, charged by five locals, to $350 required by one local union.[4] (Table II.) The most common charge is $25 and $50; each amount is charged by 55 locals. Third in importance is $100, charged by 32 locals.

TABLE II

INITIATION FEES IN 300 UNIONS

Central Value of Class Intervals	Number of Locals
$5.00	24
10.00	24
15.00	10
20.00	3
25.00	56
35.00	12
50.00	76
75.00	30
100.00	38
125.00	3
150.00	11
200.00	9
300.00	4
	300

4. Wherever a union charges a higher fee to those above a certain age, the higher fee has been used.

As in the level of dues, the highest initiation fees are charged by the skilled building trades unions. In contrast, the initiation fees in the federal labor unions, the building service trade, bakery workers, bookbinders, brewery workers, machinists and streetcar men were comparatively low. Four unions — typographers, stereotypers, printing pressmen and teamsters — fall in between the high and the low group.

Among the ten locals of the bakery workers' union, only one charged a fee as high as $50; six were $25 or more, and two below $25. Initiation fees in ten bookbinders' locals ranged from $10 to $50, with the majority below $25. The brewery workers' union does not allow initiation fees above $28, and the majority place their fees at $25. The locals in the machinists' union are still lower. Initiation fees in six locals ranged from $3 to $15, with three locals charging $5. Despite its origin as a union of highly skilled mechanics, the machinists' organization has many production and other semi-skilled workers in its ranks, but even its lodges of skilled tool and die makers seldom charge initiation fees as high as the building trades locals. None of 13 locals in the streetcar men's union charged an initiation fee of more than $20, and the fees in 11 were $10 or less.

Comparatively high initiation fees are charged by the locals of the bricklayers' union. The fees ranged from $32 to $178, and only four out of 20 locals charged less than $50. Only one local out of 26 of the carpenters' union charged an initiation fee of less than $25. This was made up of box makers, who usually are paid a much lower rate than carpenters. Twenty-two locals charged fees of $50 or more, the highest being $150 by one local. Even higher are the initiation fees charged by the locals of the electricians' union. Fees ranged from $2, charged by a "Class B" local — locals whose members are not entitled to death benefits or pensions — to $300, charged by three locals. Sixty per cent of the locals charged $100 or more.

The initiation fee of $350 set by a local of painters was the highest charged by any of the 300 locals. Forty per cent of all locals charged $100 or more, and only six out of 32 locals had admission fees as low as $25. Similarly, the range of fees in the plasterers' locals were between $25 and $200, with the majority of locals charging $80 or more. The same range of fees was charged by the roofers' locals, except that the majority of locals had fees of $50

or less. The maximum fee in the locals of the plumbers' union was slightly above the roofers, the range being from $50 to $225. In addition, almost 75 per cent of the locals charged fees of $100 or more, two charging $200 and one $225.

Four unions — printing pressmen, stereotypers, teamsters, and typographical — occupy an intermediate position between the unions which charge high and low fees. Fees in the locals of printing pressmen ranged from $15 to $100, but the majority of locals charged $25 or less. Both the stereotypers' and teamsters' union had maxima of $150, the range in the stereotypers' locals was from $10 to $150 and in the teamsters' organization from $2 to $150. However, 57 per cent of the teamster locals, and 76 per cent of the stereotypers charged $25 or less. Including registration fees, the admission charges in the locals of the typographical union were from $38 to $135, with slightly under 50 per cent of the locals charging $50 or less.

There is a slight tendency for locals in smaller communities to charge lower dues and initiation fees than locals established in the larger cities. It would, however, be difficult to work out a correlation between size of the community and amount of dues and initiation fees. Length of time in the industry would influence the level of initiation fees. Dues, while influenced by the same factors, are also determined by the existence or non-existence of fraternal benefits. Local unions which maintain fraternal benefit systems tend to have higher dues than those without such fraternal arrangements.

Dues in CIO Unions

Dues charged by unions affiliated with the Congress of Industrial Organizations are substantially lower than those charged by organizations affiliated with the AF of L. In some instances the International union sets the dues for the entire organization, and divergence from the amount set is allowed only by special permission of the General Executive Board. The following International unions specify the dues to be charged in their constitutions:

Union	Monthly Dues
Automobile, Aircraft and Agricultural Implement Workers of America, United	$1.00
Marine Cooks and Stewards Association of the Pacific Coast	1.50
Maritime Union of America, National	2.50

Office and Professional Workers of America, United	$2.00
Rubber Workers of America, United	1.00
Shoe Workers of America	2.18⅓
Steel Workers of America, United[5]	1.00
Stone and Allied Products Workers of America	1.25
Transport Workers of America	1.75
Transport Service Employees of America, United	1.50

A summary of the dues charged by the above ten Internationals shows the following:

Number of Internationals	Dues per Month
3	$1.00
1	1.25
2	1.50
1	1.75
2	2.00
1	2.18

Five, or more than 50 per cent of the total, charged $1.50 or less per month; and two of the ten, the National Maritime Union and the Shoe Workers' Union, charged above $2. The figures apply to all locals in the respective Internationals.

A number of CIO unions define the minimum monthly dues that can be charged by locals. As a rule, the minimum tends to be $1 per month. There is some evidence that dues in CIO unions tend to be close to the minimum. This is shown by the United Electrical, Radio and Machine Workers of America. This union has a "dues-minimum" of $1 per month. Five out of six locals charged the minimum dues of $1 per month. The sixth charged $1.30 per month. Another illustration of the same tendency can be found in the dues charged by locals of the Textile Workers of America, CIO. Locals of the textile workers are not permitted to charge less than $12 per year as dues. Out of four locals three charged $12 per year, or $1 per month, and the fourth charged $13 per year.

In addition to the above two unions, the following CIO Internationals specify that local unions can set their dues at either $1 or $1.50 per member per month:

[5] $1.50 may be charged if special permission is secured from the General Executive Board.

Union	Minimum Dues Per Month
Boatmen's Union of the Pacific, Inland	$1.50
Farm Equipment Workers of America, United	1.00
Gas, Coke and Chemical Workers, United	1.00
Furniture Workers of America, United	1.00
Woodworkers of America, International	1.00

Since four of these five unions have been organized since the enactment of the National Labor Relations Act, and they are made up largely of semi-skilled workers, it is reasonable to assume that the average amount charged as local dues is close to the minimum. The dues of the Boot and Shoe Workers' Union, AF of L are somewhat on this order — 35 cents per week, or $18.20 a year.

The lower dues found in CIO unions are due to several causes. Most of the AF of L unions are older and were originally formed as organizations of skilled workers who believed in high dues and extensivebenefits. Semi-skilled unions in the AF of L were influenced by this philosophy. Of the 18 AF of L and one independent union, 17 pay funeral or other benefits, and in many instances the locals, independently of the International, operate a sick or some other type of benefit system. In order to maintain these beneficiary systems, higher contributions are needed. In addition, the AF of L unions were built up over a period of many years. They gained their membership by slow and patient effort, and they operated on a theory that high dues were needed in order to build up sufficient financial strength to meet an employer attack. In contrast, the CIO unions have attracted largely semi-skilled and unskilled workers, who were not as "organizable." Large numbers might not have joined if the dues were "too high," and low dues were frequently given as an argument for joining. Consequently dues had to be kept low, and the memberships, despite high wartime earnings, have been generally averse to increases in dues.[6]

Per Capita Taxes

Virtually all unions are made up of a number of locals,[7]

6. The officers of the CIO automobile union have recommended increases in dues several times, but their recommendations have always been rejected, either by the convention or on a referendum vote of the membership.

7. While the National Maritime Union has locals in a number of East Coast and Gulf Coast ports, these locals have no independent treasuries. All dues are paid to the national headquarters, which finances the port branches.

and the locals pay a per capita tax — a given amount per member per month. The size of the per capita tax exercises some influence on the amount of dues. Unions that pay death or sick benefits or old-age pensions have a higher level of per capita taxes. The importance of these benefit systems upon the height of the per capita tax may be observed from the different amounts required as per capita from members eligible for death or fraternal benefits and "Class B" members who are not. Monthly per capita in the bakers' union is $1.30 for full beneficial members, and 40 cents for non-beneficial members; in the bookbinders' union the corresponding charges are $1.35 and 60 cents; the carpenters pay 75 cents and 25 cents; the electricians, $2 and 50 cents. Moreover, the brewery workers' and teamsters' unions, which operate no beneficiary system, have per capita of 50 cents and 25 cents per month, respectively.

Few CIO unions operate beneficiary systems. Per capita taxes in most of these unions are close to 50 cents or less, although the United Steel Workers of America has a per capita tax of 75 cents per month. The central organization of the steelworkers' union does, however, finance many services which are, in AF of L unions, provided by locals.

Initiation Fees in CIO Unions

As in the case of dues, CIO unions as a rule require lower initiation fees than unions affiliated with the AF of L. The top initiation fee charged by any CIO union was the minimum fee of $50 charged by the Marine Engineers Beneficial Association. Next highest was the initiation fee of $25 charged by the Marine Cooks and Stewards Association of the Pacific Coast. On the other hand, the United Rubber Workers of America make a flat charge of $2 as an initiation fee; and the United Steel Workers of America allows its locals to charge only $3. Another CIO affiliate, the United Transport Service Employees of America, requires an initiation fee of $5. In contrast, the International Union of Elevator Constructors, AF of L charges a flat initiation fee of $200. The United Gas, Coke and Chemical Workers (CIO) do not allow an initiation fee above $5, and two CIO unions, the Longshoremen and the Retail Clerks, prohibit their locals from charging more than $10.

A number of CIO unions allow their locals to set their initia-

tion fees within a specified range. Thus the initiation fee of the American Newspaper Guild can be set by the locals between $1 and $10. The Federation of Architects, Engineers, Chemists and Technicians has a range between $2 and $10, as has the Mine, Mill and Smelter Workers. The automobile workers' union allows initiation fees between $2 and $15, and the oil workers' union between $5 and $25.

Instead of a range for the initiation fee, a number of unions set a minimum below which locals cannot go. It is possible to deduce from the level at which the minimum is placed whether the unions charge a high or low initiation fee. Five International unions affiliated with the CIO provide for a minimum initiation fee of $2. The effect of the low minimum upon the actual charge can be observed from the initiation fees in six locals of the United Electrical, Radio and Machine Workers CIO. This union has a minimum initiation fee of $2, and five out of six locals charged the minimum; the sixth set $5 as the initiation fee. While the Textile Workers of America (CIO) does not specify the initiation fee that can be charged by local unions, out of four locals one had an initiation fee of $1; one charged $2; one, $2.50; and one not more than $10.

In addition to five Internationals which had $2 as the minimum initiation fee, one International set its minimum at $3; three Internationals set their minima at $5; two at $10; and one at $10.25.

It is clear that the initiation fees, as well as the dues, charged by the CIO unions are appreciably lower than those charged by AF of L organizations. It should be noted that the AF of L unions are predominantly in the printing and building trades, where closed shops and tight control of the job have been in existence. In part, the high initiation fee may be a means of excluding certain workers from union jobs. It is also due to the general belief that the union should demand high fees. The unions in the CIO are more inclusive, operate frequently in industries where the single plant employs large numbers, and where the workers are semiskilled. High initiation fees are therefore not feasible. Moreover, the policy of the CIO leaders is to draw in as many workers as possible, rather than to exclude workers from the union by financial barriers.

Assessments

While dues and initiation fees are the main charges borne by union members, assessments are by no means unimportant. Since they are not regular levies, it is difficult to determine how frequently they are imposed. In general, unions seek to avoid levying assessments, because such irregular and uncertain imposts are likely to create dissatisfaction. In 1939 several thousand anthracite miners struck against an International assessment, and recently the membership of the International Typographical Union overwhelmingly rejected a proposal for increasing an assessment.

Assessments can be levied either by the International, the District, if one exists, or by the local union. As a rule the conditions under which assessments can be imposed are outlined in the union constitutions. An International assessment in the International Association of Machinists must be approved by a majority on a referendum vote. District assessments must be approved by two-thirds of the vote "of all the members in the district in attendance and voting at a summoned meeting of their respective lodges." The International Brotherhood of Electrical Workers specify that if the defense fund falls below $20,000 an assessment of 50 cents on each male and 25 cents on each female can be levied. In addition, if the pension fund falls below $250,000, an assessment of $1 can be levied on all except pensioners and "Class B" members.

The constitution of the Brotherhood of Locomotive Engineers authorizes the International President and the Secretary-Treasurer "to levy one or more additional assessments" until there are enough funds to meet the losses arising from accidents to members. The General Executive Board of the International Association of Bridge, Structural and Ornamental Iron Workers is allowed "to levy an assessment sufficient to replenish the treasury and meet all demands created by . . . emergency." Locals of the same union can levy a local assessment, provided the proposal has been presented to the local union in writing, read at three consecutive meetings, and been approved by a majority vote of all members present at the third meeting. If the income of the Journeymen Barbers' Union is insufficient to meet the expenses of the union, a referendum on levying an assessment can be taken. In contrast, the General Executive Board of the Boot and Shoe Workers' Union (AF of L) "can levy such assessments as they may deem

necessary." Local unions of the same International can levy assessments with the approval of the General Executive Board.

In order to support the union against employer attacks, the General Executive Board of the carpenters' union can levy "a per capita assessment." Local unions cannot levy a tax or special assessment except by a two-thirds vote of all members present, and such a levy "cannot be declared valid upon the night of its introduction, but must lay over at least two weeks for consideration."

The plumbers' union permits the levying of an assessment whenever "the funds of the organization are below $200 per capita." The International Union of Operating Engineers allows levying of assessments or special taxes "from time to time." Under the constitution of the teamsters' union, whenever the funds of the International fall below $250,000, an assessment of 50 cents per member can be imposed. In contrast, the Executive Board of the International Longshoremen's Union can levy assessments whenever it regards "such assessments necessary for the welfare of the ILA." The Board of Directors of the Printing Pressmen can "levy twenty (20) cents, or any part thereof, per week per member" upon 30 days' notice.

Locals of the International Typographical Union can levy special assessments, if such levies are approved by the members on a referendum vote. The requisite majority is determined by the local constitution. In addition, the ballot must "plainly explain the necessity for the proposed charge." The painters' union requires that a proposal for levying a local assessment must be "laid over at least one week for consideration" and be approved by a majority of those present at a meeting. The Granite Cutters' International Association allows its locals to impose an assessment upon their members "not to exceed one dollar." The procedure for levying is not specified.

As in dues and initiations, unions affiliated with the CIO limit the levying of assessments more stringently. The United Rubber Workers of America allow the levying of a local assessment "in case of emergency or when income from dues and initiation fees is inadequate to finance the necessary expenses of the Local Union." Approval by two-thirds majority of the members present at the local meeting, of which meeting seven days' notice had been given

to the members, is necessary. No procedure for the levying of an assessment by the International is given.

In contrast, the CIO automobile workers' union allows the International Executive Board to levy assessments "of one dollar in any one calendar year." Local assessments must be approved by a two-thirds majority of those present at a meeting, for which seven days' notice had been given. In the United Electrical Radio and Machine Workers of America an assessment can be levied only by the convention or by a referendum vote, and is limited to $1 per member per six months. Local assessments must follow the rule governing such levies embodied in the local constitution, the rule having been approved by the General Executive Board of the International. Before an assessment can be levied in the Transport Workers' Union of America, it must be approved "by a majority of the members voting in a referendum." The constitutions of a number of International unions affiliated with the CIO contain no rules on the levying of assessments.

Conclusions

Contributions for dues and initiation fees in labor unions are not uniform. Skilled trades which pay a wide variety of benefits and which have been organized for the longest periods require the highest contributions. Originally built on the theory that a large treasury provided a margin of safety, they have continued to charge high dues and initiation fees because of the benefits they furnish. For example, members of the electricians' union 65 years of age and in continuous good standing for 20 years can draw pensions of $40 per month. A death benefit is also paid. In addition, many locals operate independent sick and death benefit systems. These activities must be financed out of dues. Whenever these unions take in non-beneficial members, the latter are charged lower dues. The more recently organized unions pay no benefits, and consequently do not require so high a level of dues to maintain themselves. On the whole, there is no evidence that dues are generally exorbitant, and many "low-dues" unions have found that too low contributions hamper the proper functioning of the organi-

High initiation fees were devised at a time when craft unions were exclusive and tried to limit their membership to what they believed was the available employment in the trade. They are

found mainly in the skilled crafts. Unions that seek a mass membership among semi-skilled and unskilled labor find high initiation fees impractical. The evidence seems to indicate that relatively few unions charge exorbitant initiation fees, and not many workers are affected by them.

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MONOPOLISTIC OUTPUT AND INTERNATIONAL TRADE

SUMMARY

Relation to the author's previous article, 233. — I. Definitions and assumptions, 233. — II. Price policies of a monopolistic producer selling in both domestic and foreign market, 234. — III. A particular firm engaged exclusively in export trade, 237. — IV. Many exporters and importers in rivalry with one another: monopoly possibilities in the export trade, 238; monopsony possibilities in the import trade, 240; internal monopoly and monopsony, 242. — V. The international interest, 244. — VI. Assumptions, methods, criteria, 247. — VII. Conclusions, 249.

In an earlier article in this JOURNAL, the writer endeavored to show that tariff restrictions might be desirable, from a single nation's viewpoint, on monopsonistically bought imports and monopolistically sold exports.[1] A major assumption throughout the article was that the internal economy of the nation was characterized by pure competition. This was an unrealistic simplification which should now be rectified. An expanded theory, recognizing the existence of varying monopoly distortions within the national economy, is not difficult to evolve. The preliminary work on "monopoly gaps" has already been done by Lerner[2] and Hotelling.[3] Their conclusions regarding resource allocation within a single country can now be combined with some of the ideas published already by Benham,[4] Kaldor,[5] and the writer. This synthesis is already long overdue.

I

We must first pause briefly to define terms, state assumptions, and assert general principles. *Private marginal return* (ϕ) is equal to marginal revenue (ΔR) over marginal cost (ΔC). The entre-

1. "The Monopsony Case for Tariffs," February, 1944, pp. 229–245.

2. A. P. Lerner, "The Concept of Monopoly and the Measurement of Monopoly Power," Review of Economic Studies, Vol. 1 (October, 1933), pp. 157–175.

3. H. Hotelling, "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates," Econometrica, Vol. 6 (July, 1938), pp. 242–269.

4. Frederic Benham, "The Terms of Trade," Economica, November, 1940, pp. 360–376.

5. Nicholas Kaldor, "A Note on Tariffs and the Terms of Trade," Ibid., pp. 377–380.

preneur aims to maximize profits by making ϕ equal to unity at every margin. *Social marginal return* (θ) is equal to price (P) over marginal real cost (ΔC). Under certain circumstances it is in the social interest that θ be the same magnitude for every enterprise which produces and sells within the national economy.[6] These "certain circumstances" are (1) product prices are a reasonably precise monetary expression of the economic contribution of the "last" unit consumed by each purchaser, (2) marginal real cost refers to the value of the extra inputs required to produce an additional unit of output, and (3) there is a single horizontal layer of enterprisers between the factors below and the consumers above.[7] An important assumption throughout is that the value of imports must equal the value of exports.[8]

II

An examination of the price policies of a monopolistic producer who sells in both the domestic and a foreign market will reveal the essential theme of this essay. The reasoning which underlies the decisions of such a seller were analyzed by Mrs. Joan Robinson over ten years ago.[9] Figure I depicts his actions and demonstrates their rationale. He maximizes profits by equating the marginal revenue (ΔR) of both markets to the common marginal cost of production (ΔC). The magnitude of these three variables is represented in the diagram by OA. The total output is Q_fQ_d; the price of Q_f units sold in the foreign market is P_f, and that of the Q_d units sold in the domestic market is P_d. At this point we leave familiar ground.

The profit maximizing price policies of this discriminating monopolist cause a malallocation of resources, so far as the nation

6. Our social marginal return (θ) is not so very different from Lerner's (op. cit.) measure of monopoly power, which is $(P-\Delta C)/P$. The degree of monopoly control which a seller is exercising is indicated by the extent to which the value of θ exceeds unity. In attempting to improve resource allocation, θ would appear to be a more logical yardstick than Lerner's measure of monopoly power; after all, when it comes to a question of transferring factors between employments, the crucial data concern the rate of satisfaction obtained per unit value of resources used. Under certain assumptions, this should be equal everywhere. Should it also be unity everywhere? (See Section VI.)

7. There are no accumulating distortions arising from a vertical arrangement of monopolies.

8. This supposition does not necessarily rule out the possibility of (gross) capital movements.

9. "The Economics of Imperfect Competition," London, 1933, Chapter 15.

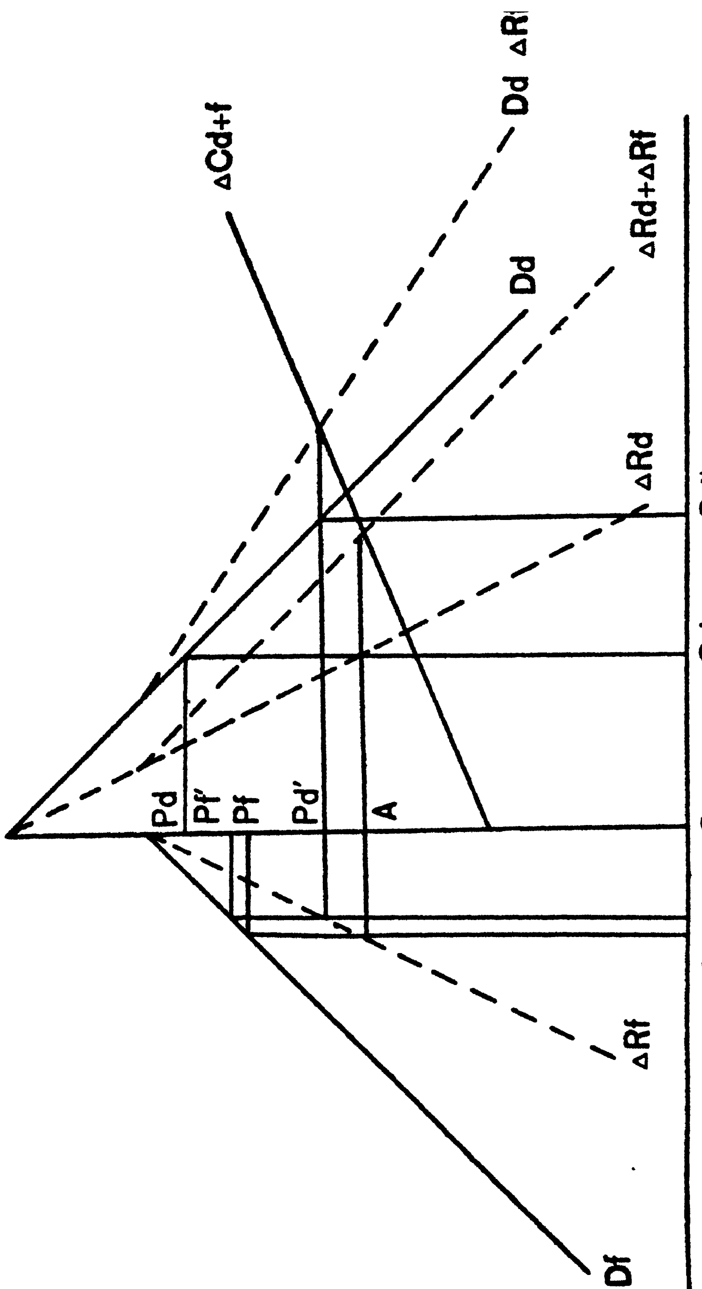

FIGURE I

in which he produces is concerned. This follows from the fact that the social interest required a producer who sells at home and abroad to equate the marginal revenue in the foreign market (ΔR_f) with the price obtained domestically (P_d). This is tantamount to saying that the private marginal return on foreign sales (ϕ_f) should equal the social marginal return on domestic sales (θ_f).[1] This is a general rule and its validity is unaffected by the average degree of monopoly existing in the home market.[2]

Why should ϕ_f equal θ_d and ΔR_f equal P_d? The productive factors which are put to work by an international monopolist yield two kinds of economic gain for the country of manufacture. There is a *direct* provision of utility for domestic consumers, and the extent of this is indicated at the margin by P_d. There is also an *indirect* provision of utility for people at home, because the exports give rise to money claims which will subsequently pay for a wide variety of imports. The marginal satisfaction derived from these numerous imports will be indicated by their individual prices, and consequently their aggregate contribution to consumer satisfaction, approximately, will be represented by the total sum paid for them.[3] Therefore the marginal revenue schedule for foreign sales shows the eventual utility which is indirectly provided by exports. In short, $\Delta R_f/\Delta C$ is simultaneously the private marginal return of the seller and the social marginal return of the natural economy, *when it comes to foreign sales*. The value of these two utility streams — indirect through exports and direct from domestic consumption — should be kept in balance at the margin, if the interests of the national economy are to be observed.

Assuming that the balance of the home economy is characterized by pure competition, how should the local government then regulate this international and discriminating monopolist? The responsible officials should seek to: (1) allocate output between the two markets so that the national gain is the same at each margin, which entails equating ΔR_f and P_d; (2) ensure that this firm's total employment of resources will provide an economic gain at the margin equal to that normally obtained throughout the balance of the economy. The normal social marginal return for the economy at large is, according to the assumption at the outset of this para-

1. Because marginal costs are the same whether the "last" unit produced is destined for the foreign or domestic market, and they are incurred at home.

2. *The possibility of monopsony is ignored until Section IV.*

3. This statement would be invalid if claims on foreigners are used to import only one or a very few products.

graph, exactly one. Therefore ϕ_f and θ_d should also equal unity and hence each other.

This can all be readily depicted in Figure I, if we construct an additional schedule which might be termed the "combined marginal economic contribution" curve. It is constructed by horizontally summing the ΔR_f and D_d schedules. Its relevancy depends upon a socially proper allocation of sales between the foreign and domestic markets. Total output should be such as to equate the combined marginal economic contribution with the combined marginal cost of production. That is, ΔR_f, P_d' and ΔC should all be equal. If this is done, the total output will be $Q_f'Q_d'$, Q_f' units will be sold in the foreign market at P_f', and Q_d' units will be sold in the domestic market at P_d'.

The above analysis may be of incidental use to persons interested in dumping. Granting price preferences to foreign buyers is counter to the interests of the seller's country. It is quite impossible to dump (i.e. make $P_f < P_d$) and simultaneously perform one's social duty (i.e. render $\Delta R_f = P_d$).[4]

III

We may now broaden the scope of this inquiry and consider the case of a national economy which is characterized by a certain degree of monopoly and a particular firm which is engaged exclusively in export trade.

Whether the investment of resources in this firm is sub- or supra-optimum depends on whether $\Delta R_f/\Delta C$ for the firm is greater or less than the mean $P_d/\Delta C$ for the economy as a whole. In a country where all enterprises are monopolies of one degree or another, there is a strong probability that output will be too high in each export firm. Laissez-faire will ordinarily result in businessmen unconsciously equating their private marginal return throughout the country in both the export and home trades. It is then inevitable that ϕ for an export firm, which is presumably equal to ϕ for all those producing for the domestic market, will be less than θ for the country as a whole.[5]

4. This is even true when price and marginal revenue are equal in the domestic market, for, while this might appear to ensure a voluntary equation of ΔR_f and P_d, the demand relationship must be such that the monopolist will either abandon the foreign market and sell only at home (in which case there is no dumping) or he must charge higher prices abroad (which is the reverse of "dumping" as usually defined).

5. ϕ is always less than θ, because ΔR is always less than P, when firms are monopolistically situated.

There may be some doubt in special cases whether the private marginal return of an export firm should be compared with the mean social marginal return prevailing in the economy as a whole. Is the significance of this average brought into question by a high dispersion around it? It may be that the export firm employs very specialized agents of production, which are only transferable between itself and a few other enterprises or industries. In this case the proper criterion might be the average degree of monopoly in the firms and trades from which the export firm draws its productive factors.[6]

How the government could restrict the output from monopolistic export firms deserves brief consideration. There are many alternatives: (1) operation by the government, (2) setting of definite output limits, (3) establishment of higher price floors, (4) levying special penalties and taxes. It makes little difference which method is used, so far as the essential argument presented here is concerned. The main point is that the foreign market always be charged the full price it will pay for the limited quantity which is exported. Self interest on the part of the seller will normally guarantee that this happens. It should be borne in mind, however, that the output desired by the government will not be as profitable as that which the profit motive would normally dictate.[7] Consequently, all but the first method listed above may, failing a government subsidy, put the export producer out of business in the long run. The fourth kind of control — special taxes — will lower his quasi-rents even more abysmally than the others.

IV

The next step is to consider a country in which there are so many exporters and importers in rivalry with one another that they behave in a purely competitive manner. They do this even though both the foreign demand for exports and the foreign supply of imports is less than infinitely elastic. However, their government, viewing wider horizons, might recognize and wish to exploit

6. This is an ever-present complication which really enters into every problem considered in this article. It is relevant to subsequent discussions of monopsony. In future we shall proceed as though average degrees of monopoly and monopsony are extremely typical and qualified by very little dispersion.

7. Because it will prevent the equation of marginal revenue in all markets, and therefore reduce the total revenue obtainable from even a less advantageous total output; this must reduce the firm's quasi-rents.

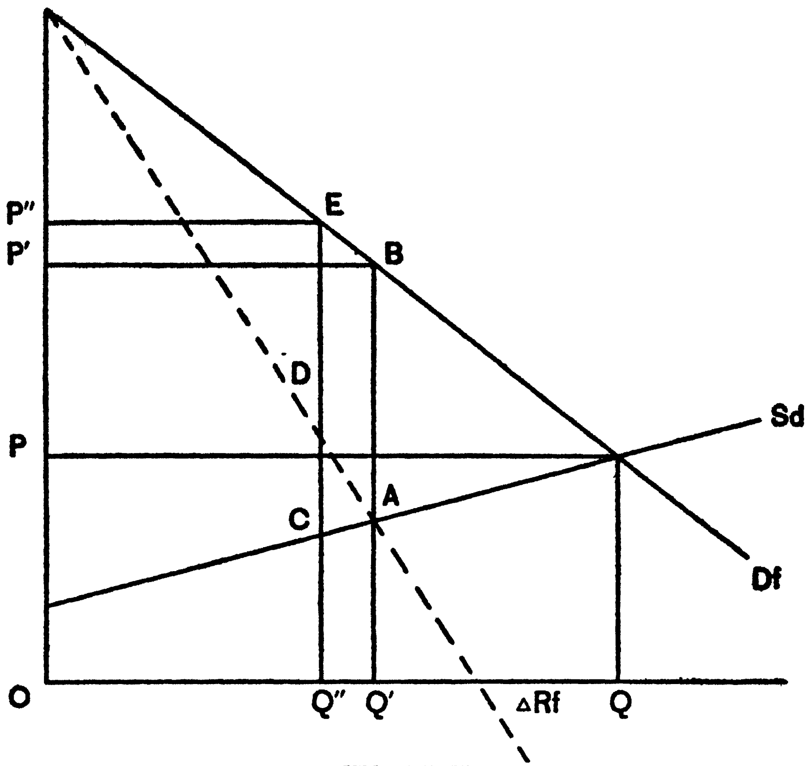

FIGURE II

the monopolistic and monopsonistic opportunities which so clearly exist. The earlier treatment of this case by the author[8] was based on the assumption that the internal trade of the nation was purely competitive. The time has now come to advance this analysis by supposing an average degree of monopoly or monopsony to exist in the domestic economy.

Monopoly possibilities in the export trade. We shall suppose that the numerous exporting producers sell all their output abroad. The collective supply schedule of these producers is the horizontal summation of all their individual marginal cost schedules for prices at which they will operate. Left to their own devices, these purely competitive producers would equate their domestic supply with the foreign demand (Figure II), the resultant quantity and price being Q and P, respectively.

8. Loc. cit.

However, we know now that it is the marginal revenue obtained from foreign buyers which is the paramount national consideration in the export trade. It is $\Delta R_f/S_d$[9] which must be brought into equality with the average social marginal return at home. If θ_d is unity, then ΔR_f should be equated with S_d, providing that foreigners are charged the maximum possible price (P') for the Q' units exported to them.[1] This should be done by levying a per unit export tax of AB.

Next let us assume that the internal economy is characterized by monopoly, so that the mean social marginal return exceeds unity by an appreciable amount, being in fact 1.6. Exports of even Q' will then be supra-optimum, because resources invested in the export trade should not yield a lower social rate of return for the economy than do the resources which are invested for the domestic market. $\Delta R_f/S_d$ must be raised into conformity with θ_d. This must be done by increasing the export tax until the private marginal return in this export trade is also 1.6. Figure II is constructed so that this occurs when Q'' is sold abroad at P'' per unit.[2] The use of an export quota would not realize the government's objective, for not all the foreigners would then pay the full price, and consequently the ΔR_f schedule would not appear as depicted.

Monopsony possibilities in the import trade. We shall imagine that there are numerous importers bringing in some productive agent for their own use in manufacturing. The demand schedule of these producers for the import is based on the value of the marginal physical product realized from these inputs. The natural determination of a purely competitive market would be to equate the foreign supply and domestic demand. The outcome should be (Figure III) a price of P for a quantity Q.

However, it is the additional expense of purchasing an extra unit of imports which is significant for the national economy. Extra payments for imports give foreigners extra claims on domestic output. The proper policy at the margin, when there is no internal monopsony or monopoly, is to give foreigners claims on home production of no greater value than the economic contribution of the goods received from them. In Figure III the "economic

9. This is the same as $\Delta R_f/\Delta C_d$ since S_d equals ΔC_d under our assumptions.

1. Cf. the author's earlier article, p. 244.

2. In other words a tax of EC renders DQ'' 1.6 times CQ''.

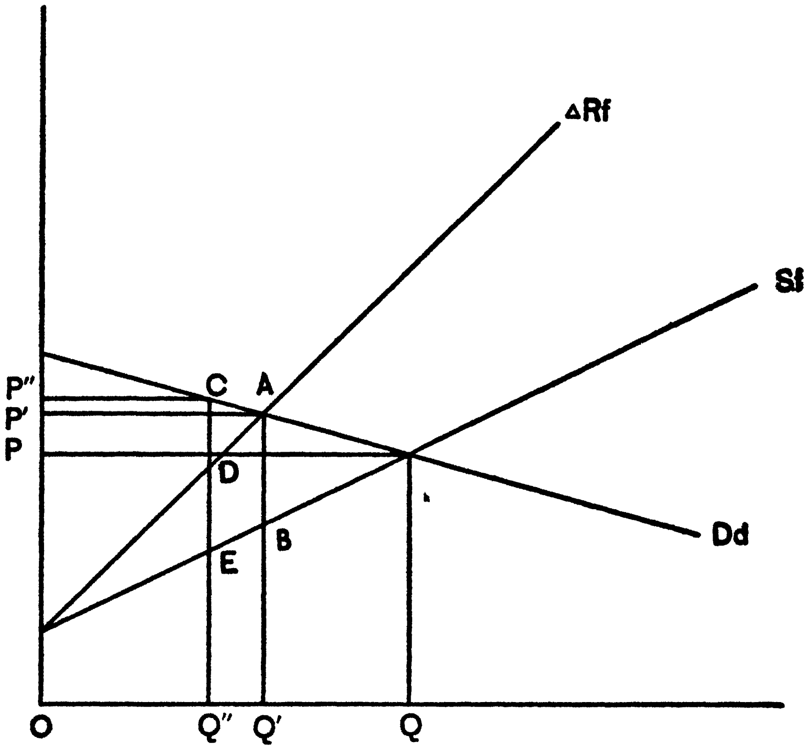

FIGURE III

contribution" of the imported goods[3] is represented by D_d, and the extra claims to domestic output made available to foreigners is shown by ΔR_f. These two variables should be equated. This should be done by levying an import duty of AB per unit. Then imports would be Q' and be purchased at a price of P'.

Now we can complicate matters by supposing that all producers in the economy are in a position to adopt monopsonistic policies in purchasing goods of domestic origin. In other words, these producers, in hiring productive agents, distinguish between the marginal money cost of another input and the price paid for it; and it is the former, not the latter, which they equate with the value of its marginal physical product. Perhaps, taking the country as a whole, the marginal money cost of an input is, on an average, 1.25 times its price. In other words, the typical economic contribu-

3. I.e. the value of the inputs' marginal physical product.

tion of a productive agent is 1.25 times its real cost at the margin. This real cost presumably measures — in the case of domestically supplied inputs — either disinclination to work or opportunity cost. However, the real cost of imported inputs is the claims which foreigners receive to the national output. These real costs, arising from the use of imported and domestic inputs, should be kept in balance at the margin.[4]

How should the existence of an average degree of monopsony of 1.25 affect the restrictive import policies previously recommended? Clearly, the marginal economic contribution of an imported input must be rendered 1.25 times its real cost to the national economy. What this entails can be more readily understood with the aid of Figure III. Schedule D_d shows the economic contribution, while schedule ΔR_f depicts the real cost to the economy of imported inputs at the margin. These can be brought into a ratio of 1.25 only by increasing the customs duty from AB to CE a unit.[5] A quantity of Q'' will then be imported and domestic users will pay P'' a unit for it.[6]

Internal Monopoly and Monopsony. The domestic producers may tend to be monopolistic *and* monopsonistic in the buying of inputs and the selling of products within the country, and yet be quite oblivious of their ability to influence price when it comes to the purchase of imports or the sale of exports.[7]

Let us suppose that the average degree of monopoly *cum* monopsony within the country is 2.0. This means that the rela-

4. It would be a poor substitution, from the viewpoint of the home economy, to import a unit whose marginal expense subtracted more from the national output than the lost production occasioned by transferring a domestic input from some other occupation.

5. Figure III has been constructed so that CQ'' is 1.25 times DQ''.

6. These conclusions are compatible with those reached by the writer in his earlier article (loc. cit., pp. 230–235). It was there recommended that an import duty be levied such that the price paid by domestic users and the marginal payments to foreigners be equalized. Essentially this called for a ratio of 1.0 between the economic contribution of the imported unit and its real cost to the economy. This would be correct only if there were no degree of monopsony within the importing country. However, it was explicitly assumed on the first page that pure competition existed amongst the buyers and sellers in each country (p. 229).

7. This is not an unrealistic assumption, even though it may appear paradoxical at first glance. The national market of most countries is extremely small compared with that of the world at large. It is therefore not at all impossible that individual producers may exercise their price influence over purely domestic transactions and yet fail to exploit similar opportunities which are latent in foreign trade.

tion of economic contribution to real cost is typically as 2 is to 1, when it comes to internal trade. This basic welfare parameter should be rendered the same for exports and imports. However, when it comes to foreign trade, "economic contribution" means "marginal revenue obtained from foreigners" and "real cost" means "marginal payments to foreigners."

The average degree of monopoly *cum* monopsony is equal to the average degree of monopoly multiplied by the average degree of monopsony. We shall suppose that the values of these three measures are 2.00, 1.60 and 1.25, respectively. This means that any supply schedule of exports will tend to over-rate the real cost of domestic production by about 1.25.[8] Moreover, when it comes to the purchase of an imported agent of production, the economic contribution of the "final" units will be about 1.60 times the marginal demand price offered by domestic users.[9] Proper government policies towards imports and exports can now be reconsidered with the help of Figures II and III.

In the case of exports, a tax should be levied so that the marginal revenue obtained from foreigners is 2.00 times the marginal real cost of producing the units sent abroad. The average monopsony influence within the economy is 1.25, and this must be reflected in the supply schedule (S_d) of Figure II.[1] Accordingly, the export tax should only be sufficient to cause $\Delta R_f/S_d$ to equal 1.60. In other words, when it is a question of exports, only the average degree of monopoly need be considered; the average degree of monopsony can be ignored.

Imports should be taxed so that their economic contribution at the margin is 2.00 times the marginal payments made to for-

8. Because, while the prices of domestic agents indicate the real cost of using them, the exporting producers, who hire their inputs monopsonistically, prepare their export supply schedules on the basis of the *extra* expense of buying the extra agents needed to make an extra unit of output. The average cost of inputs does not interest them in this connection.

9. This is because the economic contribution is the inputs' marginal physical product times the selling price of the product it helps to make, while the actual market demand of the producers who use the input is based on its marginal physical productivity times the marginal revenue derived from the sale of the goods it makes. If the price of products is typically 1.60 times the marginal revenue obtained from them, then, when business men are left to maximize profits, the economic contribution of an input will be about 1.60 times what businessmen will offer for it.

1. The average degree of monopsony was reflected in this schedule before, when we first referred to Figure II; however, the monopsony influence was then unity, and so we failed to mention it.

eigners. However, the average degree of monopoly of 1.60 is already reflected in the demand schedule (D_d) of Figure III.[2] Accordingly, the import duty should only be sufficient to render $D_d/\Delta R_f$ equal to 1.25. The moral of this is that the average degree of monopsony is alone significant when it comes to a question of imports.[3]

V

It is time to consider the international interest, not simply the economic well-being of a single country. We shall simplify by supposing there are only two countries, A and B.

It would be a coincidence if two separate nations each had the same average degree of monopoly, monopsony, or monopoly *cum* monopsony. It would, of course, be in the international interest to equalize this average degree of monopoly and/or monopsony between the two countries.[4] However, it is normally impossible to achieve this very beneficial result, since most of the productive agents are completely or highly immobile between nations. The best that each country can do is probably to equalize its own internal degree of monopoly and /or monopsony.

What are the international repercussions if A should seek and realize this objective? First, the efforts of A to carry out this policy may either aid or hinder similar attempts on the part of B. Their two programs will be supplementary to the extent that one country is attempting to encourage exports (because the firms involved have an abnormally high degree of monopoly and/or monopsony) while the other country is attempting to discourage particular firms which are in competition with imports (for having an abnormally low degree of monopoly *cum* monopsony). This may be an unimportant consideration because of mitigating circum-

2. This was immaterial when we first made use of Figure III, for then we were assuming that the average degree of monopoly was one.

3. The reader is warned to remember the general and special assumptions within which Section IV was prepared. This home country's economy consists of a single layer of producers who are sandwiched between final consumers and productive agents. These producers do not recognize their price influence over imports or exports — but their government does. The goods which are imported are productive agents, not finished goods. Producers who import agents sell only at home. And producers who export use only domestic agents. Otherwise we would be faced with some multiplicative relations which would become too complex for treatment here.

4. For the same reasons that it is advantageous to eliminate any dispersion in the degree of monopoly and/or monopsony within a single region.

stances. Suppose A is seeking to expand certain exports, while B is seeking to contract firms which compete with these imports. The demand schedule for the export firms in A will be shifting upwards and to the right,[5] and so the monopoly and/or monopsony "gap," which the A government is attempting to narrow, will be wider for any given output.

A second view is that success in equalizing the degree of monopoly in A, and hence in improving its economic efficiency, should redound to the benefit of B. Perhaps A is making good x, B is making good y, while both make good z. Normally they trade x and y. Country A now enjoys its increased efficiency by taking a little more leisure and by turning out more x and z. An increasing plenty of these two goods should cause people in A to value y more highly in terms of x and z. Country B should therefore obtain better terms for its exports of y; for unless this inducement is offered and is advantageous, it will not transfer resources out of z and into y.

The above general comments have so far supposed that each government, in equalizing monopoly and/or monopsony, has failed to look upon marginal payments to foreigners for imports as a "real cost," and upon marginal receipts from foreigners for exports as an "economic contribution." If their vision suddenly improves, and they proceed to equalize their "gaps" accordingly, the equalizing government may injure the other nation more than it benefits its own. This will be apparent if we consider a very simple case where a *country* is a monopsonistic buyer of an imported commodity, although the individual purchasers are purely competitive in their purchasing, and the average degree of monopoly and/or monopsony within the country is unity. Without government intervention, the equilibrium quantity would equate demand and supply. (Q in Figure IV.) A tariff (XY) should be imposed sufficient to restrict output, so that the marginal payments to foreigners (ΔC_f) equal the marginal demand price (D_d) offered by domestic users. The price subsequently received by foreign sellers is P_f', and that paid by domestic buyers is P_d'. The marginal disbursement made by domestic purchasers (ΔD_d) is also of some concern here. The effect of this tariff on the importing country is a gain in customs duties, represented by the area $a+b+c$, a loss in domestic buyers' surplus of $b+c$, and hence a net gain of a. The

5. Because competing firms in B are cutting back.

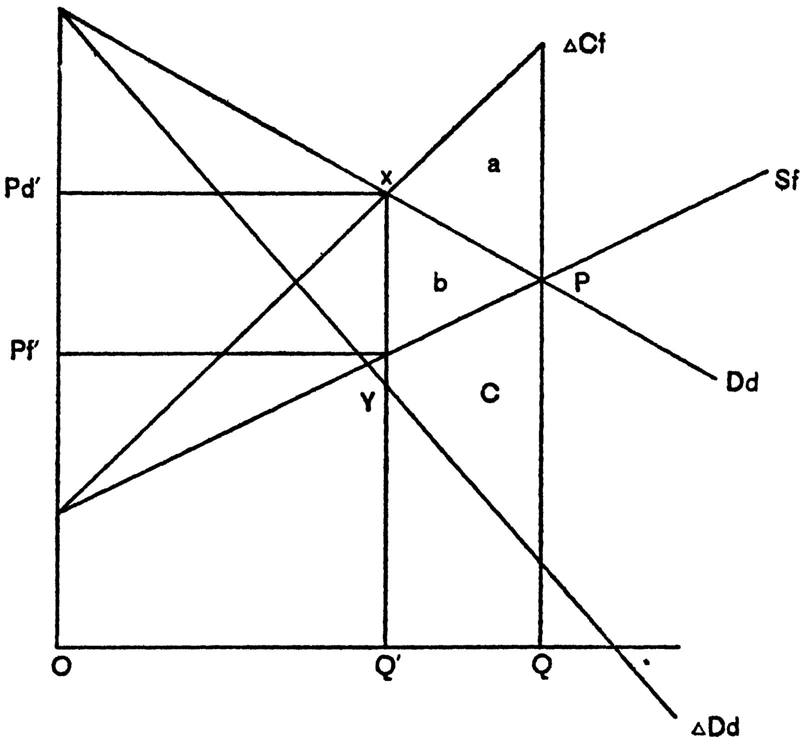

FIGURE IV

effect on the exporting nation is a loss in suppliers' surplus of $a+b$. Algebraic summation indicates an international loss of b. Analogous reasoning would demonstrate an international loss where one country exploits the monopolistic disparity between price and marginal receipts in the sale of exports.

What recourse does the injured nation have? Country B cannot attempt to circumvent A's tariffs by means of subsidies, for this simply transfers funds from the treasury of the subsidizing government to that of the taxing one. The only way for B to secure immunity from A's attempts to gain at its expense is to threaten adoption of similar policies where B finds itself in a monopolistic or monopsonistic situation viz-à-viz A.

These comments on international economic welfare are admittedly cursory. In a less selfish world this subject would probably be of paramount concern. However, governments, rightly or wrongly, establish policy according to short-run national interest, and so this prevailing viewpoint has been adopted here.

VI

The foregoing analysis employs various assumptions, methods, and criteria. Most of them have been used before by the writer, and certain of their limitations were mentioned on that occasion.[6] This material need not be repeated here. However, there is one novel supposition in the present article which needs to be scrutinized. It is the assumption that an entire national economy can exhibit an average measure of monopoly or monopsony. The writer believes this to be possible and lists the following considerations in support.

(1) The formula for any kind of statistical average will yield a mean measure of monopoly or monopsony for the economy as a whole, so long as one or more firms exhibit this characteristic. This follows from the fact that no other firms can have offsetting measures of less than unity.[7] It is safe to say that there are some monopolistic and/or monopsonistic firms in every national economy.

(2) People might object that an economy of monopolistic firms would entail a high level of profits. But it is perfectly possible for every firm to have average costs equal to price. In any case, it is conceivable for an economy to have net "profits," however these may be defined; profits do not drop out of the system, but are spent sooner or later.

(3) Generalized monopoly (or monopsony) is perfectly compatible with equilibrium for the economy as a whole, and does not necessarily entail instability due to an involuntary underemployment of resources. A gap between the price of an output (P) and the value of the inputs which made it (V) might exist at the margin, for all commodities, without signifying that the national rate of production was sub-optimum. This would become apparent if an attempt were made to expand all monopolistic production without changing the money supply. The relevant schedules would shift to the left as the margins attempted to move to the right. Expanded output in one sector of the economy would shift other demand schedules down and to the left, as consumers would be making larger aggregate disbursements on the expanded outputs.[8]

6. Op. cit., pp. 239–243.

7. Assuming that the measure used for simple monopoly is $P/\Delta C$, for example.

8. Demands are elastic because marginal revenue and marginal cost are positive.

This expansion in one sector would require resources, and probably compel increased rates of remuneration; elsewhere factor supply schedules, and hence marginal cost curves, would tend to move to the left, which is usually upwards. This would happen in all firms, if all other concerns were expanded. These developments would certainly lower P minus V everywhere, but probably would have little effect on the economy's output.

The point is that the price of one commodity has no absolute significance by itself. The price of good x (P_x) is important only in relation to the price of good y (P_y), since then one can tell which contributes more to satisfactions. Similarly, V_x has significance only in terms of V_y, since then one can compare their real costs in terms of other opportunities open to factors, and so on. Therefore P_x/V_x means nothing by itself; it acquires significance only by introducing the relations P_x/P_y and V_x/V_y; that is why monopoly problems rightly emphasize such comparisons as P_x/V_x with P_y/V_y, and do not dwell on P_x/V_x alone.

Whether or not conditions are in equilibrium depends largely on the decisions of businessmen. Each firm is in equilibrium if marginal costs and marginal receipts are equal. And there is stability in the existence of firms so long as none are suffering persistent losses and no new firms are being created by the lure of prospective profits. Chamberlin's whole theory of monopolistic competition centers around the possibility of these conditions.

(4) It is conceivable that, if one divided the economy into government and enterprise portions, the economic contributions of marginal outputs in the latter sector might be greater than the value of the inputs which made them. This would seem to indicate the existence of an economic surplus for the enterprise portion of the economy, and, at first glance, this might appear impossible. However, most of the functions of government have to be supported from this surplus. This remark may seem to echo the crude business criticism that bureaucrats are parasites, but such is not the intention; most government functions are in the nature of a necessary fixed cost of enterprise, examples being the administration of justice, education of future workers and executives, preservation of efficiency through public health, and so forth.

(5) A number of competent authorities have written on prob-

lems relating to equalizing — rather than eliminating — the amount of monopoly in the economy.[9]

VII

A summary of conclusions may prove helpful.

(1) A discriminating monopolist who sells at home and abroad will allocate too large a proportion of his total output to the foreign market.[1]

(2) Export dumping[2] injures the seller's country.

(3) In attempting to equalize the internal degree of monopoly and/or monopsony — i.e. the ratio of "economic contribution" to "real cost" at the margin — the economic contribution of exports is the marginal payments received from foreigners, and the real cost of imports is the marginal payments made to foreigners.

(4) The average domestic degree of monopoly can be ignored when imports are taxed as part of a program for equalizing the internal degree of monopoly *cum* monopsony. Similarly, the average domestic degree of monopsony can be ignored in taxing exports.

(5) Exploitation by one nation, either of its monopolistic power over exports or its monopsonistic power over imports, will injure other countries beyond the gain to itself. Accordingly, there will be an international loss. However, when this special power is not exploited, the equalization of monopoly and monopsony in one nation will, more likely than not, benefit other countries with which it trades.

9. Lerner, op. cit. Also R. F. Kahn, "Some Notes on Ideal Output," Economic Journal, Vol. 45 (March, 1935), pp. 1–35

1. Except where the home demand is infinitely elastic, but this supposition flies in the face of probability.

2. Defined as $P_f < P_d$ when moving costs and customs charges are neglected.

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THE APPROPRIATE BARGAINING UNIT QUESTION UNDER THE RAILWAY LABOR ACT

SUMMARY

Historical background, 250. — The 1934 Amendments, 252. — The meaning of "craft or class," 253. — The meaning of "carrier," 256. — The race question and the bargaining unit, 260. — The foremen and the bargaining unit, 263. — The bargaining unit in the air transport industry, 265. — Conclusions, 266.

The difficulty of defining the appropriate bargaining unit in representation disputes under the National Labor Relations (Wagner) Act has been widely discussed. The similar problem in the companion law, the Amended Railway Labor Act of 1934, however, has been generally ignored, perhaps because of the widely held, but largely erroneous, assumption that the railway labor situation has been so settled as to preclude controversies over the bargaining unit. This article discusses the bargaining unit question under the Railway Labor Act and compares certain features of it with the manner in which similar problems have been handled under the Wagner Act.[1]

Historical Background

After the Federal Government took over the railroads in 1917, the United States Railroad Administration recognized the right of unions representing the majority of any craft of workers to represent those workers. Moreover, the Railroad Administration forbade any interference with the choice of representatives by management, a fact which contributed to the mushroom growth of railway unionism of that period.

When the railroads were returned to private ownership in 1920, the Railroad Labor Board, created by the Transportation Act of 1920, attempted to pursue a similar policy, as evidenced by the following ruling:[2]

> The majority of any craft or class of employees shall have the right to determine what organization shall represent members of such craft or class.

1. Some of the material used herein originally appeared in H. R. Northrup and J. T. Dunne, "Administrative Discretion, Judicial Review, and Discriminatory Bargaining Units," Lawyers Guild Review, IV (1944), pp. 2–12.
2. H. D. Wolf, The Railroad Labor Board, Chicago, 1927, pp. 184–186.

Such organization shall have the right to make an agreement which shall apply to all employees in such craft or class. No such agreement shall infringe, however, upon the right of employees not members of the organization representing the majority to present grievances either in person or by representatives of their own choice.

Unlike the Railroad Administration, however, the Railroad Labor Board had no authority to enforce its policy. As a result, its decisions were flouted both by labor and management until its usefulness to either ended. The result was union-management collaboration on a bill which became the Railway Labor Act of 1926. Section 2, Third, of this act stated:

Representatives for the purpose of this Act shall be designated by the respective parties in such manner as may be provided in their corporate organization or unincorporated association, or by other means of collective action, without interference, influence or coercion exercised by either party over the self-organization, or designation of representatives.

The 1926 act, however, contained no formal machinery for the determination of employee bargaining representatives in case a dispute arose as to which union, if any, represented a group of employees. In such an instance, the five-man Board of Mediation, which the law created to mediate union-management disputes, would intervene and attempt to achieve a settlement by a consent election, or a similar procedure. If one of the parties declined to coöperate, however, the board had no authority to make a determination, and the dispute remained unsettled.

The 1926 act also contained no provision specifying that the representatives of a majority of a craft or class of workers was the legal bargaining agent of all workers in a craft or class. Nor did it include specific penalties for carriers which violated proscriptions against interference with the free choice of representatives by employees, as contained in Section 2, Third. In the last instance, however, the United States Supreme Court ruled that Section 2, Third, conferred a right which could be enforced by resort to the injunctive process.[3]

Thus, prior to 1934, when the amendments to the 1926 act became law, some basic principles concerning representation and the bargaining unit in the railway industry had developed as a result of Federal intervention. They may be summarized as follows: (1) there should be no interference by carriers with the

3. Texas and N. O. R. Co. v. Brotherhood, 281 U. S. 548 (1930).

free choice of employee representatives by employees; (2) the bargaining unit, in conformance with the traditional structure of railway unionism, should be a "craft or class"; (3) the majority of any craft or class should be the representative of all the workers in the craft or class; and (4) in case of dispute as to what organization represented a craft or class of employees, such dispute could be settled by the regular mediation agency created under the law.

THE 1934 AMENDMENTS TO THE RAILWAY LABOR ACT

The 1934 amendments to the Railway Labor Act, which were adopted at the request of the railway unions, and over the opposition of carriers, were in large part intended to implement the policies developed under previous legislation in a manner more favorable to the unions. In addition to civil action to restrain violations of freedom of organization, drastic criminal penalties were added. The five-man Board of Mediation, which had fallen from union favor, was abolished, and a three-man National Mediation Board was created in its stead. The National Mediation Board was given almost identical duties to that of its predecessor in union-management disputes. In representation disputes, however, its duties were formalized and enlarged.

Section 2, Fourth, of the Amended Railway Labor Act guarantees employees freedom of organization and provides: "The majority of any craft or class of employees shall have the right to determine who shall be the representative of the craft or class for the purposes of this Act."

Section 2, Ninth, requires the National Mediation Board to intervene in representation disputes:

> If any dispute shall arise among a carrier's employees as to who are the representatives of such employees designated and authorized in accordance with the requirements of this Act, it shall be the duty of the Mediation Board, upon request of either party to the dispute, to investigate such dispute and to certify to both parties, in writing, within thirty days after the receipt of the invocation of its services, the name or names of the individuals or organizations that have been designated and authorized to represent the employees involved in the dispute, and certify the same to the carrier.

After instructing carriers to "treat with the representative so certified as the representative of the craft or class for the purpose of this Act," wide discretion is entrusted to the Mediation Board to determine the method of determining bargaining agents, and to decide who shall participate in the determination:

In such an investigation the Mediation Board shall be authorized to take a secret ballot of the employees involved, or to utilize any other appropriate method of ascertaining the names of their duly designated and authorized representatives in such manner as shall insure the choice of representatives, by the employees without interference, influence, or coercion exercised by the carrier. In the conduct of any election for the purposes herein indicated, the Board shall designate who may participate in the election and establish the rules to govern the election. . . .

Congress thus required that the bargaining unit be a craft or class and hence limited the discretion of the Mediation Board (and the freedom of employees) in this respect. Nowhere, however, in the Act is "craft or class" defined. The problem was left entirely to the Mediation Board.

The Meaning of "Craft or Class"

The problem of defining "craft or class" confronted the National Mediation Board soon after its organization. At first, it attempted "to avoid any general ruling, but to decide each case on the basis of the facts developed by the investigation of the case." After some decisions had been made, however, in which small groups of employees were ruled to be a craft or class, "insistent demands were made that the board follow the same rulings in subsequent cases, and other groups of employees within a class or craft insisted that they too were entitled to separation as distinct crafts."[4]

Moreover, the Mediation Board found that the pressure "to split classes of employees hitherto considered a unit into more and more groups" came from all branches of railway service:

Hostlers and their helpers, who have generally been grouped with firemen for representation purposes, have in some cases requested separate representation as a distinct craft; and sometimes the contention is that hostlers are engineers and should be voted together with road engineers. Among the maintenance of way employees, it has been argued that section foremen, laborers, bridge tenders, watchmen and various kinds of mechanics are separate and distinct crafts; and in some cases it was contended that the last of these should be voted together with various crafts of shop employees. A similar separation of powerhouse employees into a number of crafts has been requested; and among the clerical, office and station employees numerous subdivisions have been asked on the basis of variations in the work done by the employees, as well as on the basis of jurisdiction of different employees' associations.

The Mediation Board thus decided to establish a definite

4. First Annual Report of the National Mediation Board, 1935, p. 21.

policy as to the meaning of craft or class. After one year's experience in administering this law, it was "impressed that the tendency to divide and further subdivide established and recognized crafts and classes of employees has already gone too far, and threatens to defeat the main purposes of the Railway Labor Act, namely, the making and maintenance of agreements covering rates of pay, rules and working conditions, and the avoidance of labor disputes." The Board also declared that it had been "informed by the management in some cases that such subdivisions tend to interfere with the efficiency of operations." For these reasons it announced in its first annual report that henceforth it would be "inclined . . . to avoid unnecessary multiplication of subcrafts and subclasses, and to maintain so far as possible the customary grouping of crafts and classes as it has been established by accepted practice over a period of years in the making of wage and rule agreements."[5]

The bargaining unit policy of the National Mediation Board has been religiously adhered to since 1935 with but very few exceptions. It amounts to disregarding local variations of practices which are dominant nationally. It also amounts to a complete victory for the twenty-one so-called standard railway unions; for these unions are the ones which have "established . . . accepted practice."[6] *In effect, the Mediation Board defines the bargaining unit to suit the jurisdictional claims of the standard railway unions.* A few examples will illustrate how this works out in practice.

Besides locomotive firemen, the Brotherhood of Locomotive Firemen and Enginemen takes into membership hostlers and hostler helpers — those who handle engines in and around roundhouses, repair yards, etc. The Mediation Board, with but one known exception,[7] has refused requests of hostlers to be designated as a separate craft or class, although separate representation for this

5. Ibid.

6. The "standard" railway unions include generally those which are, or have been, members of the Railway Labor Executives Association. The term is used here to include the following: the Railroad Signalmen, the Train Dispatchers, the Locomotive Engineers, the Locomotive Firemen and Enginemen, the Railroad Trainmen, the Railway Conductors, the Switchmen, the Railroad Telegraphers, the Railway and Steamship Clerks, the Maintenance of Way Employes, the Railway Carmen, the Electrical Workers, the Machinists, the Boilermakers, the Sheet Metal Workers, the Blacksmiths, and the Firemen and Oilers. The first six are independent unions; the remainder are AFL affiliates.

7. Jacksonville Terminal Company, Case No. R-102. The decision was later voided.

group existed on several railroads prior to 1934. As a result, this brotherhood now represents nearly all such employees.

The Brotherhood of Maintenance of Way Employes was founded by track foremen, but it now includes within its membership all maintenance-of-way workers, including laborers and mechanics of various types. In some early cases, the Mediation Board sustained the contentions of some of these groups that they should be designated a separate craft or class, and usually that resulted in the defeat of the standard brotherhood in the ensuing election.[8] After the Board adopted its policy, however, all maintenance-of-way workers were declared a single craft or class, despite local practices of separate bargaining by foremen and laborers.[9] Aided by this policy, the Brotherhood of Maintenance of Way Employes has won bargaining rights on all major railroads except one.

The Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employes, as its name indicates, organizes a diverse group of manual and white-collar workers. The Mediation Board has with a few exceptions designated all the employees claimed by this brotherhood as a single craft or class. This has been a principal factor in preventing small organizations composed of either freight handlers only or of clerks only from successfully contesting representation elections with this brotherhood, which is now the largest railway labor union.[1]

The International Brotherhood of Firemen, Oilers, and Railway Shop Laborers and Helpers includes stationary firemen, oilers and laborers in railway repair shops and powerhouses among its members. Although shop laborers and powerhouse employees often work miles apart, with no contact between them, they

> have been treated as one class of employees in certifying representatives, on the ground that the customary practice is to group them together, for representation purposes. But this policy of the board has been challenged. . . . The objection is that the shops and powerhouses are distinct units requiring

8. E.g. NMB cases No. R-29, No. R-59, and No. R-60.

9. For example, on the Florida East Coast Railway, as discussed below, p. 264.

1. The courts have been rather critical of the manner in which the Mediation Board has "gerrymandered" the bargaining unit to suit the railway clerks' brotherhood. See Brotherhood of R. and S. Clerks v. Nashville, C. and St. L. Ry. Co., 94F. (2d) 97 (1937); and Brotherhood of R. and S. Clerks v. United Transport Service Employees, 137F. (2d) 817, set aside on jurisdictional grounds, 320 U. S. 715 (1943).

separate representation in each unit. Most carriers, however, have recognized the combined grouping in making agreements with the International Brotherhood of Firemen and Oilers.[2]

And that has been decisive for the Mediation Board.

The definition of craft and class by the National Mediation Board has thus given the standard railway unions a decided advantage over their rivals, who are forced to meet the standard organizations on the latter's grounds. In this respect the policies of the National Labor Relations Board are in sharp contrast to those of the Mediation Board. If the NLRB finds, upon the basis of all factors, that a craft can logically lay claim to consideration as a separate bargaining unit, and if there is reasonable doubt as to whether the majority of this craft prefers representation by a craft union or by a union claiming wider jurisdiction, the NLRB, by applying its so-called "Globe doctrine," forces the union claiming the wider jurisdiction to meet the one claiming the narrow jurisdiction in the narrow unit, so that the workers within the craft or group may themselves determine, by election or otherwise, which union they desire to represent them.[3] This contrast between the policies of the NLRB and the Mediation Board is made more vivid when it is noted that the former, unlike the latter, has wide discretion in determining the type of bargaining unit and does not have to confine units to a craft or class. The NLRB could have ousted all craft units and struck a crippling blow at their unions; instead, it favored them with the Globe doctrine.

The Meaning of "Carrier"

The manner in which the National Mediation Board has defined "carrier" has given a further advantage to the standard unions, and in contests between them, to the larger ones. From its inception, the Board has refused to define a craft or class smaller in scope than an entire carrier. Thus, for example, the machinists in any one shop of a railroad are grouped with the machinists in all other shops of that railroad. The machinists of the Pullman Company's repair shops in Chicago, St. Louis, Wilmington, Del., New Orleans, New York and San Francisco are one craft or class, although those located in different cities may have little more in common than their employer. Frequently this practice means that

2. First Annual Report of the National Mediation Board, p. 11.
3. D. O. Bowman, Public Control of Labor Relations, New York, 1942, pp. 160–212.

the workers in one large shop or railroad district determine the exclusive bargaining agent for the craft on the entire carrier, without regard for the wishes of those in the smaller shops or districts.

The Mediation Board's policy in this respect seems to be based upon its belief that the "Railway Labor Act vests the Board with no discretion to split a single carrier or combine two or more carriers for the purpose of determining who shall be eligible to vote for a representative of a craft or class of employees . . . and the argument that it has such power fails to furnish any basis of law for such administrative discretion."[4] This interpretation of the Railway Labor Act apparently stems from the fact that Congress specifically refused to insert a provision in the act compelling the Mediation Board to find less than carrier-wide crafts or classes appropriate, if it was so requested by any party to a representation dispute. In other words, the Board in effect has ruled that because Congress did not specifically *prescribe* a particular type of craft or class, it *proscribed it.* The comments of Supreme Court Justice Rutledge, then a member of the District of Columbia Appellate Court, in regard to such reasoning are impressive:[5]

> But I think that Congress was as far from commanding that all less than carrier-wide units be ousted as it was from concreting all units in the contract mold of 1934.
>
> The view that ouster is required would go far to destroy, rather than to promote, the peace in labor relations and the uninterrupted service of the carriers which were the statute's declared and primary objects. . . . It makes the [Railway Labor] Act an invitation and an instrument for creating labor strife especially in stirring up jurisdictional disputes. It gives this weapon to, and throws the whole weight of the legislation in favor of, the big unions as against the smaller ones. All that is needed for ouster of the latter is to cause some employee to question or "dispute" their right to act as representative, which a large union can always do. From that point on the ouster is almost automatic. The result of the election is, in these circumstances, a foregone conclusion. The Board becomes merely an election judge, having in effect a ministerial and often only perfunctory function. This is but a policy of compulsory liquidation of the smaller bargaining units. I do not believe that Congress intended to adopt it. Nor do the terms of the statute comport with such an intention.

The Supreme Court of the United States has also rejected the Mediation Board's view. In the case, Switchmen's Union v.

4. New York Central Railroad Co., Case No. R-690, May 27, 1941.

5. Switchmen's Union v. National Mediation Board, 135 (2d) 785 (1943). Dissenting opinion.

National Mediation Board,[6] it ruled that the Mediation Board had wide discretion to determine craft or class without such limits as the board had imposed upon itself. Moreover, the Board has frequently agreed to a less than carrier-wide bargaining craft, when all parties to a dispute requested it.[7] As Justice Rutledge pointed out, if it did not have any authority to find a less than carrier-wide craft or class appropriate, it would not have any authority to agree to one. It is not possible for an agency to exceed its authority merely because all parties to a dispute agree to the action.

The Mediation Board's policy of limiting bargaining units to carrier-wide ones involves it in an anomalous position when faced with a carrier which has a number of subsidiary lines. In such cases the Board

> has ruled generally that where a subsidiary corporation reports separately to the Interstate Commerce Commission and keeps its own payroll and seniority rosters, it is a carrier as defined in the act and its employees are entitled to representation separate from other carriers who may be connected with the same railroad system. If the operations of a subsidiary are jointly managed with operations of other carriers and the employees have also been merged and are subject to the discretion of a single management, then the larger unit of management is taken to be the carrier rather than the individual subsidiary companies.[8]

Although this policy may seem reasonable at first glance, it should be clear that the corporate accounting practice of the railroads should not be the determining factor in the scope of the bargaining unit. For example, the yardmen of the Michigan Central Railroad were represented for many years by the Switchmen's Union. Then the corporate structure of the Michigan Central was merged with the parent New York Central, where the yardmen had long been represented by the Brotherhood of Railroad Trainmen. Upon application of the Brotherhood of Railroad Trainmen the Mediation Board found that the entire New York Central system was one unit. In a resulting election the larger brotherhood easily ousted the Switchmen's Union from the Michigan Central properties, although an overwhelming number of yardmen employed by the Michigan Central preferred the latter.[9]

6. 320 U. S. 297 (1943).
7. E.g. C. C. C. and St. Louis Railroad, Case No. R-113; Ohio Central Division, Case No. R-161; Boston and Albany Railroad, Case No. R-452; Boston and Albany Railroad, Case No. R-460; Boston and Albany Railroad, Case No. R-570.
8. First Annual Report of the National Mediation Board, p. 22.
9. New York Central Railroad Co., Case No. R-690.

On the other hand, the Long Island Railroad, which is wholly owned by the Pennsylvania Railroad Company, reports separately to the Interstate Commerce Commission. Accordingly, the Mediation Board has decided that the Long Island Railroad is a carrier and its employees are entitled to separate bargaining rights, rather than being combined with the entire Pennsylvania system, although there had been a long history of contractual relations covering both the Long Island and the Pennsylvania as a single unit.[1]

Thus the employees of the Long Island Railroad receive separate representation privileges, which are denied to those of the Michigan Central. And this is true not because of a history of collective bargaining or because of a mutuality of interest between the employees of the subsidiary and the parent company in the one case which did not exist in the other, but solely because of different accounting techniques which are of no interest or consequence to the affected employees!

Here again the policies of the Mediation Board may be contrasted with those of the NLRB. The NLRB has, it is true, found multi-plant units appropriate where bargaining on a broad basis has been the custom, in spite of the desire of a local union in a plant or district to break away from the existing unit. On the other hand,

> the [National Labor Relations] Board does not in general establish a broad unit including plants where a majority of the employees are opposed to the union which represents a majority of the employees in the other plants of the company. Generally where other considerations point to the appropriateness of a unit covering all or a group of the plants of a company, the Board includes in the broad unit requested all those plants in which the employees have voted for the union which claims the wide unit. *Separate plant elections permit the local group of employees to determine for themselves whether to be included in the company-wide unit.* The Board thus established as broad a unit as the extent of organization of the unit makes appropriate, *when other considerations point* to the appropriateness of the broad unit.[2]

The NLRB has at times refused requests of seceding groups of workers to be designated a separate unit, if they have had a long history of bargaining on a broader basis. Where, however, a

1. Long Island Railroad Co., Case No. R-100. Interestingly enough, the standard unions wanted separate representation for the Long Island Railroad in this case.

2. Seventh Annual Report of the National Labor Relations Board, 1942, p. 61. Emphasis supplied.

group of workers has been bargaining independently of the broad unit and wishes to continue as a separate unit, the NLRB has recognized their right to remain independent:

> In general, where the desires of the majority of a logically separate group, such as a single plant or a locality, are opposed to those of all the employees of the company or group of companies, the [National Labor Relations] Board has permitted the separate group to determine for itself whether to be included in the broad unit. In spite of considerations favoring the broad unit, the Board has held that to impose upon a distinct local group of employees a collective bargaining representative to which they are opposed, would in no way encourage the practice and procedure of collective bargaining, or insure to employees the full benefit of their rights under the [Wagner] Act.[3]

In sum, the National Mediation Board is so convinced of the soundness of company-wide collective bargaining that it will force it upon dissentient groups of employees. The National Labor Relations Board, on the other hand, holds that the desires of the affected employees are paramount and decisive, regardless of any special advantage which may be claimed for company-wide collective bargaining.

The Race Question and the Bargaining Unit

Whether to take the question of race into account in defining craft or class has been a particularly acute problem for the National Mediation Board, principally because nearly every railway labor union, including all but two of the standard organizations, either excludes Negroes altogether, or confines them to "Jim Crow" auxiliaries under rules which deny them any voice in union affairs or opportunities for promotion. These discriminatory unions have sometimes contended that Negroes should be placed in separate crafts or classes, and at other times have opposed such action, depending upon which policy would be most advantageous to them under the circumstances involved. Negro groups, too, have proposed both policies.[4]

The Mediation Board at first did give weight to questions of race, but not for long. In its second annual report, the Board announced that it had "definitely ruled that a craft or class of employees may not be divided into two or more on the basis of race or color for the purpose of choosing representatives. All those

3. Ibid, p. 62.
4. Herbert R. Northrup, Organized Labor and the Negro, New York, 1944, Chapters I and III.

employed in the craft or class, regardless of race, creed or color must be given the opportunity to vote for the representatives of the whole craft or class."[5]

At first glance, this appears to be a solution strictly in accord with the national policy of equal treatment for all. Actually, however, it works out quite the reverse. We have already noted that the Mediation Board defines craft or class to suit the jurisdictional claims of the standard railway unions. Since most of these organizations habitually discriminate against Negroes, it is not surprising that Negroes have found the results highly unsatisfactory. The "opportunity" to vote for the representatives of the whole craft or class is an empty one indeed for a minority whose vote is numerically too weak to be decisive. By placing Negro freight handlers or redcaps with white clerical workers, or Negro hostlers with white firemen, the Board has insured results unfavorable to Negroes, whether they vote or not.

The Mediation Board has also given such an "opportunity" to vote for bargaining representatives to Negro firemen and trainmen, who are usually a minority of their craft or class. The Brotherhood of Locomotive Firemen and Enginemen and the Brotherhood of Railroad Trainmen, while purporting to bargain for these Negroes whom they do not admit to membership, have discriminated against them in every conceivable manner and have negotiated many agreements with carriers solely for the purpose of either restricting the employment opportunities of Negroes or of eliminating them altogether from the industry. *And the same Mediation Board which gave these Negro firemen and trainmen the "opportunity" to vote for representatives, assisted these representatives and carriers in its capacity as a mediator to reach the discriminatory agreements.*[6]

Thus it is obvious that the racial policies of unions must be considered in conjunction with the racial composition of the affected labor force, if an equitable determination of craft or class or any other type of bargaining unit is to be made. In instances in which there is a clear differentiation of function and a lack of mutual interest between white and colored workers, e.g. between Negro freight handlers and white clerical employees, separate

5. Second Annual Report of the National Mediation Board, 1936, pp. 11–12.

6. Northrup, loc. cit.

bargaining units are necessary for proper representation, if the union claiming jurisdiction over all employees discriminates against Negroes.

On the other hand, where there is no differentiation of function or clear lack of mutual interest, as in the case of Negro and white locomotive firemen and trainmen, Negroes would probably not be substantially benefited by the establishment of separate units on the basis of race. For Negroes in such units would usually have so little bargaining power that they might be compelled to accept a lower wage than white workers receive for performing identical or similar work. Moreover, the bargaining agent for the "white craft" would be free to use its superior economic strength to obtain the work of the "Negro craft" for its own members.[7]

The National Labor Relations Board, which has been faced with similar problems, appears to have found a sound solution. The NLRB has consistently refused to permit bargaining units to be divided on the basis of race.[8] The results have not, however, always been satisfactory; for Negro minorities have, upon occasions, been forced to accept representation by unions which do not admit them.[9] The NLRB has, therefore, gone further and announced that if a union does not represent all employees in the bargaining unit equally and without discrimination, it will revoke its certification.[1]

The NLRB has thus recognized that a union which is certified as an exclusive bargaining agent for a group of employees, and with which employers must deal as such by law, has been granted a right which carries a correlative duty, namely, to represent all employees in the bargaining unit without discrimination. Although the National Mediation Board has not acted on this principle, the United States Supreme Court has. In two far-reaching decisions handed down on December 18, 1944, the Supreme Court unanimously held

> that the Railway Labor Act imposes upon the statutory representative of a craft at least as exacting a duty to protect equally the interests of the members

7. For actual examples, see ibid., Chapter III.

8. E.g., American Tobacco Company, 9 NLRB 579; Aetna Iron and Steel Company, 35 NLRB 36.

9. E.g., Sloss-Sheffield Steel and Iron Company, 14 NLRB 186; Brasher Freight Lines, Inc., 13 NLRB 191.

1. Bethlehem-Almeda Shipyard, Inc. 53 NLRB 999, Larus and Brother Company, Inc., 16 LRR 717; Atlanta Oak Flooring, 16 LRR 689; Carter Manufacturing Company, 59 NLRB 804.

of the craft as the Constitution imposes upon a legislature to give equal protection to the interests of those for whom it legislates. Congress has seen fit to clothe the bargaining representative with powers comparable to those possessed by a legislative body both to create and restrict the rights of those whom it represents . . . but it has also imposed on the representative a corresponding duty. We hold that the language of the Act . . . expresses the aim of Congress to impose on the bargaining representative of a craft or class of employees the duty to exercise the power conferred upon it in behalf of all those for whom it acts, without hostile discrimination against them.

Accordingly, the Supreme Court held that the failure of a certified union to represent all workers without discrimination subjected it "to the usual judicial remedies of injunction and award of damages when appropriate for breach of that duty." [2] These decisions may well result in remedying some of the disabilities which have been inflicted upon Negro railwaymen by the discriminatory policies of the railway unions and the disregard of the effects of these policies by the National Mediation Board.

The Foremen and the Bargaining Unit

Unionization of foremen has had a long history on the railroads. The drafters of the Railway Labor Act recognized the established employee status of minor supervisors by defining "employee" in Section 1, Fifth, of the act as any railway worker "who performs any work defined as that of an employee or *subordinate official* in the orders of the Interstate Commerce Commission. . . ." [3] Foremen were thus explicitly granted full rights under the act.

In defining crafts or classes in which foremen are involved, the National Mediation Board has pursued its usual policy of relying on "customary practice." Thus, yardmasters and dining-car stewards, both of whom have bargained as crafts since World War I, are generally placed in separate units from other yard workers and dining-car employees.[4] On the other hand, minor supervisors in the Mediation Board's combined clerical, freight handler and station employee group and in its maintenance of way group are usually lumped in the same craft or class with the other employees in these groups.

In the case of the maintenance of way workers, the authority

2. Steele v. Louisville and N. R. Company, 65 S. Ct. 227; Tunstall v. Brotherhood of Locomotive Firemen and Enginemen, 65 S. Ct. 236 (1944).
3. Italics added.
4. E.g., see NMB cases No. R-476, R-448, R-450, R-417-21 and R-341.

of the track foremen is so great as to raise serious questions concerning limitations on freedom of choice of union representatives. The Brotherhood of Maintenance of Way Employes was founded by railway track foremen in 1886, and did not admit other trackmen till a decade later. Foremen have remained the key men in the organization, and most union officials are drawn from this group. This is to be expected, because gang foremen are frequently the only permanent employees in the maintenance of way department, all the others being casual workers hired for particular jobs. The foremen are also the most difficult to replace in case of a strike; hence the success of the brotherhood depends to a much larger extent upon its ability to control foremen than upon its success in enrolling the more numerous laborers.[5]

Besides being essential to the union, however, track foremen remain representatives of management, with considerable power to hire and to discharge. The brotherhood has long recognized that such authority places foremen in a strategic position to "encourage" organization. Wrote a correspondent of the union journal: "The best organizer we have is the foreman of any crew regardless of classification. If the foreman asks a man to join the Brotherhood, you can be sure that in most every case this man will join. . . ."[6] By placing foremen and laborers in the same unit, the National Mediation Board assists the type of coercion which is plainly implied in this statement.

Even more serious than the ordinary case is the one in which the track foremen are all white and laborers are all Negroes, as frequently is the situation in the South; for the Brotherhood of Maintenance of Way Employes confines Negroes to Jim Crow "allied lodges" and denies them any voice in union affiairs. Thus, on the Florida East Coast Railway, the brotherhood never took any interest in Negro laborers or included them within the scope of its contract till 1941, when the United Transport Service Employees' union, an organization composed primarily of redcaps, attempted to organize these laborers. The brotherhood's foremen-organizers then began to enroll laborers in "allied lodges," and discharged several for "insurbordination." Assisted by these

5. J. D. Brown,, "The History and Problems of Collective Bargaining by Railway Maintenance of Way Employees," unpublished Ph.D. thesis, Princeton University, 1927; and Herbert R. Northrup, "Unionization of Foremen," Harvard Business Review, XXI (1943), 501.

6. Maintenance of Way Employes Journal, August, 1940, p. 38.

tactics, and by the refusal of the National Mediation Board to establish separate crafts or classes for laborers and foremen, the brotherhood won sole bargaining rights for both foremen and laborers in a representation election by a small margin.[7]

The Wagner Act, unlike the Railway Labor Act, is not explicit as to the status of foremen. The National Labor Relations Board has, however, always included foremen as employees. Moreover, after considerable indecision, the NLRB now appears to have concluded that foremen bargaining units are appropriate for collective bargaining.[8]

The NLRB, however, ordinarily excludes foremen and supervisory employees from bargaining units of production employees:

> Such exclusion demands a definition of supervisors and foremen; and the [National Labor Relations] Board places in that category those who have power to hire and discharge, change wages, apportion work, discipline workers, maintain productivity, or to recommend such action. The assumption is that supervisory employees have interests which differ from those of non-supervisory employees. It is sometimes difficult to define the supervisory employees, but the Board relies upon the interests of the group under consideration and considers all the evidence possible which would indicate the proper category for the employees. Minor supervisory employees are ordinarily included, if all parties so agree; but any request for exclusion will cause the Board to exclude them, or the Board may do so if such employees appear close to management.[9]

Thus in problems arising out of the foremen's position in the bargaining unit, the National Labor Relation Board appears once again to have demonstrated a greater concern for preserving freedom of choice of the bargaining agent than has the National Mediation Board.

THE BARGAINING UNIT IN THE AIR TRANSPORT INDUSTRY

In 1936 the Railway Labor Act was amended so as to bring the air transport industry within its coverage. Unionization of that industry was then in its infant stage; in fact, only recently have large-scale organizational drives occurred there. Hence what Congress did was to predetermine union structure for the air transport industry along craft lines. The result has apparently pleased only the railway unions, which have commenced to expand in the air

7. Florida East Coast Railway, Case No. R-774; and Northrup, Organized Labor and the Negro, pp. 94–96.

8. Herbert R. Northrup, "The Foreman's Association of America," Harvard Business Review, XXIII (1945), 191–195; and Packard Motor Car Co., 16 LRR 168.

9. Bowman, op. cit., p. 163.

transport field. Industrial management and other unions in this fast-developing industry have expressed preference for what they term two "clean-cut" bargaining units on local or division basis — i.e. a local or division-wide industrial union for flight crews and a similar second unit for ground crews — instead of narrow craft units on a company-wide basis. "The act's administrators, on the other hand, habituated to the [traditional craft] . . . categories on the railroads, *tend to cover the airlines' personnel setup by a patch work quilt of bargaining units which, frequently, is ill-suited to it.*"[1] The result, once again, serves to aid the standard railway unions by developing bargaining units most advantageous to them; in this case in an industry competitive with railroads, the development of which both railway management and railway unions are continually attempting to retard.[2]

Conclusions

The foregoing analysis of the bargaining unit question under the Railway Labor Act and comparison with similar problems under the Wagner Act demonstrate that the mere limitation of an agency's discretion to define a bargaining unit to a craft or class does not necessarily insure small groups their choice of a bargaining agent. There appears to be little doubt that the National Labor Relations Board, which has wide discretion in defining the unit, has shown more regard for the desires of small groups than has the National Mediation Board, which must confine its determination to a craft or class.

Moreover, a craft or class limitation does not insure greater freedom of choice for other reasons. Instead, it limits the choice to such units, the desires of the affected employees to the contrary notwithstanding. Although it can be argued that craft or class was the traditional union structure in the railway industry when the 1934 amendments were enacted, there were also large numbers of unorganized railway workers at that time, who might have pre-

1. Business Week, November 24, 1946, p. 94; personal investigation.

2. E.g. both railway unions and management are now opposing in Congress such proposals as Federal aid for local airport construction, and Federal financed civilian flight training; and both are supporting a bill which would exempt railroads from anti-trust legislation — at a time when the railroads have been indicted for violation of the Sherman Anti-Trust Act. One of the practices which led to the indictment was the artificially high rates which the railway-owned Railway Express Agency has forced upon air express in order to prevent competition from the latter.

ferred other than the craft union form. The net result was to favor the standard unions, which were, of course, the principal sponsors of the law. And there was even less justification for predetermining union structure in the air transport industry.

Another revelation of this analysis is that the National Mediation Board appears to believe that its principal concern in representation cases is to determine the bargaining unit as satis-*factorily as possible for the standard unions, and in contests between standard unions, to please the larger. The reasons for this questionable policy appear to be inherent in the Railway Labor Act.*

The primary function of the Mediation Board under the Railway Labor Act is mediation of labor-management disputes. This is clear both from the law and from the repeated pronouncements of the Board. The Board not only regards the determination of representation disputes as a secondary function, but it has repeatedly called attention to the disturbing effect of the latter duty on mediation work. Nor should this be surprising. The seeking of compromise is the essence of mediation. On the other hand, the obligation to make determinations in representation disputes is a judicial function and can be compromised only at the risk of complete confusion and loss of judicial integrity.

Under these circumstances, the Mediation Board has found itself in a position analogous to that of an individual who attempts continually to mediate and to arbitrate disputes involving the same unions and companies. Such a person sooner or later finds that if, as arbitrator, he makes an award, he is likely to antagonize one party, no matter how careful he has been to base it on the law and facts involved. His usefulness as a mediator, which depends upon his ability to win and to hold the parties' confidence, will then be destroyed. On the other hand, if he compromises his arbitration awards in order to maintain his position as a mediator, he ceases to be of value as an arbitrator.

The incompatibility of compromise and judicial functions was in part recognized by the drafters of the Railway Labor Act. They provided that no member or employee of the National Mediation Board could serve as an arbitrator in a voluntary arbitration conducted pursuant to the act. *But they failed to realize that the settlement of representation disputes is a judicial function no less than arbitration, and thus they erred in providing for its administration by a mediation agency.*

Today, the Mediation Board operates in an industry in which the bulk of the labor force is represented by the twenty standard railway unions. This situation existed at the time when the Mediation Board was created, so that the Board's major concern has always been the settlement of labor disputes between those unions and the various carriers. In order to dispose of such disputes promptly and efficiently, the Board must have the confidence of these parties. Thus, it is understandable why the Board "does not consider that the purposes of the Railway Labor Act are best served by permitting these [representation] disputes to acquire sufficient magnitude to make it necessary to refer them to the Board for adjudication."[3]

It is also easy to understand why the Mediation Board protects the standard unions from minority organizations, not only by defining crafts or classes to fit the jurisdictional claims of the standard unions, but also by interpreting the Railway Labor Act in such a way as virtually to require representation elections only on the basis of a carrier-wide unit. By so doing, the Board not only maintains its pleasant relationship with the parties with whom it must constantly deal, but it also precludes numerous representation disputes from coming to its formal attention by forcing minority unions to meet entrenched standard unions in units most favorable to the latter.

It is important to note that the Mediation Board is able to adopt such policies because it is an insulated agency. Its activities do not come under careful public scrutiny, and it is subject to few pressures which could offset those exerted by the standard unions and the carriers.

That the policies of the National Labor Relations Board are quite different from those of the Mediation Board should not be surprising. The NLRB is a quasi-judicial agency, having only judicial functions, and having no authority to act as a mediator in labor management disputes. Moreover, the NLRB's activities are much more the subject of careful public examination than are those of the Mediation Board, and the NLRB, unlike the Mediation Board, is subject to the normal cross-pressures of the democratic process, rather than only to those of a particular group.

There is one other serious aspect of the bargaining unit ques-

3. National Mediation Board, The Railway Labor Act and the National Mediation Board, 1940, p. 13.

tion in the railway industry which deserves careful attention. The provisions of the Railway Labor Act which require the bargaining unit to be a craft or class, and which thus favor craft unions, together with the policies of the Mediation Board which otherwise favor the standard railway unions over rival organizations, have the effect of establishing a condition analogous to the closed shop, although Section 2, Fifth, of the Railway Labor Act specifically outlaws the closed shop. Moreover, this nullification of the closed shop restriction is rendered more complete, first, because the Railway Labor Act, unlike the Wagner Act, does not effectively protect employees from discharge, or other forms of discrimination resulting from collusive arrangements between unions and carriers;[4] second, because such arrangements are a distinct possibility in the industry, in view of the interest of the standard unions in preserving their entrenched position and the desire of the carriers to maintain a stable organizational situation.

These considerations all tend to raise serious questions as to the desirability of special agencies to service particular industries in the field of collective bargaining, especially when, as in the Railway Labor Act, rights and responsibilities for a particular industrial group are made different from those for labor and industry generally. These considerations also throw light on the proposed "Federal Industrial Relations Act" (S. 1171), introduced into the United States Senate by Senators Ball, Burton, and Hatch. This bill would remove the representation function from the NLRB and *turn it over to a new mediation agency, which is modeled on the National Mediation Board* — all in complete contradiction to the experience reviewed here, as well as the sponsoring Senators' widely publicized aim of "complete separation of the government's mediation function from its quasi-judicial function!"

4. The Railway Labor Act prohibits carriers from interfering with the self-organization rights of their employees upon pain of criminal sanctions. In addition, the courts have ruled that violations of the Act may be enjoined. Not only have the criminal sanctions never been applied, because of the practical impossibility of proving willful intent, but there is no way of enforcing the rights of railway employees administratively and positively. The fact that an official of a carrier might go to jail does not insure his employees, who have been discharged for union activity, reinstatement with back pay.

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LABOR AND THE RECOVERY PROGRAM, 1933

SUMMARY

I. Introduction: the general situation before the passage of the Recovery Act, 270. — II. The legislative history of the Black-Connery Thirty-Hour Bill, 272. — III. The National Industrial Recovery Act: drafting the Administration bill, 277; changes in Committee, 281; employer opposition, 282. — IV. Conclusion, 287.

The purpose of this article is to examine the rôle of organized labor in the shaping of the recovery program in the spring of 1933. The first section deals with the general situation before the passage of the National Industrial Recovery Act. The second is concerned with the legislative history of the Black-Connery Thirty-Hour Bill, which had a significant influence upon the content and timing of the Recovery Act. The final section deals with the drafting of the Recovery Act itself.

I. Introduction

In the spring of 1933 the trade union movement stood with its back to the wall. Widespread unemployment during the depression and a sharp drop in wages had shaken the unions' economic position. Only ten or fifteen per cent of the workers were organized, and those largely in the skilled trades. The mass production industries, except for coal, were unorganized, and the United Mine Workers Union was struggling for survival. Membership in trade unions had declined from a peak of well over four million in the period following World War I to fewer than three million. Most collective agreements were applied at a local level. Wages, hours, and working conditions were determined principally by employers without reference to the wishes of their employees. The company union movement, which had gained momentum in the previous decade, lost its impetus during the depression as the threat from the trade unions declined. Despite this weakness, however, organized labor wielded political power out of proportion to its economic strength in the shaping of the recovery program.[1]

Several policies designed to contend with the depression had attained wide support before the passage of the Recovery Act:

1. Lewis L. Lorwin and Arthur Wubnig, Labor Relations Boards (Washington, 1935), pp. 23–25.

(1) the spread of available employment by shortening the work-day and the work-week; (2) the creation of employment and mass purchasing power through a public works program; (3) the legal guarantee of the right of workers to organize and bargain collectively, in order that they might by economic means protect the level of wages and hours; and (4) the alleviation of the depressed condition of business by suspending the anti-trust laws and permitting trade associations to regulate business practices. These were incorporated in the Act in varying degrees.

The first two of these policies represented basic legislative demands of the American Federation of Labor. They were embodied in resolutions adopted by its 1932 convention, and were formally presented to President Roosevelt by the Executive Council of the Federation in May, 1933. A guarantee of collective bargaining did not have top priority on the AF of L's legislative program, though certain of the constituent unions, especially the United Mine Workers, attached great importance to it. The fourth policy was sponsored by the United States Chamber of Commerce and the National Association of Manufacturers. Organized labor was willing to accept it, despite the fact that it would entail higher prices for workers as consumers, on the condition that it was combined with the other policies.[2]

In the spring of 1933 organized labor's principal legislative demand, compulsory shorter hours, came near to enactment in the Black-Connery Thirty-Hour Bill. A sharp difference arose over this measure between labor and the Administration, when the latter accepted the policy of organized business as the core of its recovery program. In order to gain labor support, therefore, the Administration was compelled to write into the Act two other less urgent demands of organized labor — a guarantee of collective bargaining and a public works program. In addition, the Act made possible a shortening of hours through collective bargaining and the code authorities, though not to the extent proposed in the Thirty-Hour Bill. These concessions succeeded in winning the enthusiastic support of labor at the price of hours legislation.

2. Proceedings of the 52d Annual Convention of the AF of L, pp. 58-72; American Federation of Labor, Weekly News Service, November 26, 1932, May 6, 1933; Annals of the American Academy of Political and Social Sciences, Vol. 172, March, 1934, p. 58.

II. The Thirty-Hour Bill

A reduction in the hours of labor had been a fundamental aim of the AF of L from its inception. The depression opened the way for legislation limiting the work-day and the work-week in order to spread available employment. This policy gained widespread support from many outside the labor movement.

The Federation presented a demand for shorter hours legislation to the conventions of both major political parties in 1932, and each adopted a general plank in its platform covering the hours of labor. The Democratic platform favored:

> The spread of employment by a substantial reduction in the hours of labor, the encouragement of the shorter week by applying that principle in Government service.[3]

The Republican platform declared:

> We favor the principles of the shorter work week and the shorter work day with its application to Government as well as to private employment, as rapidly and as constructively as conditions will warrant.[4]

Mr. Roosevelt, in a campaign speech in Boston on October 31, 1932, addressed himself to this problem as follows:

> There has long been overdue a reduction in the hours of work and a reduction in the number of working days per week. . . . That means that Government itself must set an example in the case of its own employees. It means also that Government must exert its persuasive leadership to induce industry to do likewise.[5]

Though the Democratic platform and Mr. Roosevelt were not so precise on the matter of hours legislation as the AF of L would have desired, they indicated a receptiveness which was encouraging to the Federation. This receptiveness and other factors induced the AF of L to draft the Thirty-Hour Bill and undertake activity on behalf of its passage.[6] On December 21, 1932, Senator Black introduced into the Senate the Thirty-Hour Work-Week Bill, the basic section of which read as follows:

> That no article or commodity shall be shipped, transported, or delivered in interstate or foreign commerce, which was produced or manufactured in any mine, quarry, mill, cannery, workshop, factory, or manufacturing establishment situated in the United States, in which any person was employed or

3. 72d Cong., 2d Sess., Thirty-Hour Work Week, Hearings on S. 5267 before Subcommittee of the Committee on the Judiciary, Pt. 1, p. 14.
4. Ibid., p. 14.
5. Public Papers and Addresses of Franklin Delano Roosevelt (New York, 1938), Vol. I, pp. 852–853.
6. Congressional Record, Vol. 77, Pt. 6, p. 5901.

permitted to work more than five days in any week or more than six hours in any day.[7]

A violator of the Act was to be subject to both fine and imprisonment.

Hearings on the Black bill were held before a sub-committee of the Committee on the Judiciary in the first part of January, 1933. The first witness to appear was William Green, who presented the AF of L argument in support of the bill. A curtailment of hours, he said, was a fundamental attack on the depression, since it would spread work and reduce technological unemployment. Foreign competition working longer hours would be met by increased efficiency. Agriculture would benefit through an expansion of the market for farm products, while farm labor was exempted from the bill. Green urged shorter hours for government employees as a precedent for industry. In conclusion, he warned that the Federation was prepared to call general strikes to obtain passage of the legislation.[8]

The railroad brotherhoods, which were not directly affected by the Black bill, supported it in principle, on the condition that it did not lead to a reduction in wages. They emphasized the decline in labor's economic power during the depression and the need for maintaining a barrier against further wage reduction.[9]

Philip Murray, speaking in behalf of the United Mine Workers, agreed that it was necessary to sustain wages if hours were reduced. The constitutional hurdle presented by the child labor case[1] compelled labor to seek wage protection in collective bargaining, rather than in legislation. He proposed an amendment to prohibit the shipment of articles in interstate or foreign commerce which had been produced under yellow-dog contracts, the Norris-LaGuardia Act having failed to eliminate such contracts in non-union industries. Senator Black expressed sympathy with the intent of the amendment, but pointed out that it might jeopardize

7. Hearings, Thirty-Hour Work Week, op. cit., p. 1.

8. Ibid., pp. 2–22.

9. Ibid., p. 343. The brotherhoods were covered by special legislation enacted in the spring of 1933, namely, the Bankruptcy Act (47 Stat. L. 1481; U. S. C. Title 11, Sec. 205) and the Emergency Transportation Act (48 Stat. L. 214; Title 49, Sec. 257-e). Since they did not participate directly in the shaping of the recovery program, their activities will not be treated in detail here.

1. Hammer v. Dagenhart, 247 U. S. 251 (1918).

the bill on constitutional grounds before the Supreme Court.[2]

The communist Trade Union Unity League was the only labor organization to oppose the bill. William F. Dunne, the League's spokesman, described the bill as another form of the Hoover Administration's share-the-work program, designed to cut the workers' incomes, deplete their savings, and give official sanction to existing inadequate wage levels. It would gain his support only if it guaranteed no reduction in total income and established minimum wages.[3]

Representatives of industry, on the whole, opposed the bill. James A. Emery, for example, denounced it on behalf of the NAM on the grounds that it was both unconstitutional and bad economics. A few manufacturers, however, notably those in the full-fashioned hosiery industry, gave it their support.[4]

The Judiciary Committee deferred action on the bill until after the inauguration of President Roosevelt and the summoning of the special session of Congress. On March 30 the Committee reported the bill out favorably by a vote of 11–3, with a reservation as to its constitutionality.[5]

The Senate undertook consideration of the bill on the third of April. Several Senators expressed an interest in wage coverage but, despite Senator Borah's opinion that the Court was likely to reverse the decision in the child labor case, a minimum wage provision was not added. The following amendments were adopted. The Secretary of Labor was authorized to exempt an industry from the Act upon submission of evidence that special conditions existed which would impose an undue hardship. Canneries, newspapers and periodicals, executive and supervisory personnel, and farm products processed for first sale by the original producer were also exempted.[6]

When it became evident that the bill had widespread Senate support, the Administration was compelled to make its position

2. Thirty-Hour Work Week, pp. 283–297. For a discussion of the constitutionality of legislation outlawing the yellow-dog contract, see Paul F. Brissenden, "Genesis and Import of the Collective Bargaining Provisions of the Recovery Act," in Economic Essays in Honor of Wesley Clair Mitchell (New York, 1935), pp. 37–39.

3. Ibid., pp. 88–91.

4. Ibid., pp. 190 ff., 272–273.

5. New York Times, March 31, 1933, p. 3.

6. Congressional Record, 73d Cong., 1 Sess., Vol. 77, Pt. 2, pp. 1178–1199, 1244–1350.

clear. The President and his closest advisers were opposed to the bill in the form in which it was being presented to the Senate, though they had not as yet crystallized their views on a recovery program. A group of Senators, including the majority leader, Senator Robinson of Arkansas, was hurriedly called to the White House. On April 5 Senator Robinson introduced an amendment which would lift the maximum hours permitted to 36 per week and eight per day. He made it clear that if the amendment were accepted the bill would receive the President's support. The amendment was defeated, however, by a vote of 48 to 41, and on April 6 the Senate adopted the original Black bill, by a vote of 53 to 30. The party breakdown revealed 41 Democrats, 11 Republicans, and one Farmer-Laborite for the bill and 10 Democrats and 20 Republicans against it. The Senate was more willing than the White House to accede to the demands of organized labor.[7]

Top Administration figures were divided over the Black bill. One group, of whom Secretary Perkins was a leading representative, held that the measure could be made workable by amendment; while the other, led by Raymond Moley and General Johnson, regarded it as "utterly impractical" and believed that it should be killed. The proponents of both views worked simultaneously, without apparent coördination, and each claimed the President's support. The Secretary of Labor addressed her amendments to the House Committee on Labor, while the others were engaged in drafting NIRA.[8]

The Thirty-Hour Bill was introduced into the House on April 3 by Representative Connery of Massachusetts. The only significant respect in which it differed from the Senate version was in the prohibition of imports produced by employees who worked over thirty hours per week and six hours per day. The amendments proposed by the Secretary of Labor had been drawn up after consultation with other Cabinet members, and she informed the Committee that the Administration would endorse the bill if it embodied her suggestions. She did not, however, consult the AF of L, and this did not raise her in its esteem.[9]

7. Ibid., pp. 1244–1350; Raymond Moley, After Seven Years (New York, 1939), p. 186.

8. Ibid., p. 186.

9. C. F. Roos, NRA Economic Planning (Bloomington, 1937), p. 40; American Federation of Labor, Weekly News Service, March 4, 1933; 73d Cong., 1 Sess., Thirty-Hour Bill, Hearings on S. 158 and H.R. 4557 and Pro-

These amendments embodied the following provisions. (1) The establishment of a sliding scale of from 30 to 40 hours weekly and a maximum of eight hours daily, with a possible restriction on the number of weeks at 40 hours to 10 annually; authorization to work 40 hours to be granted by a tripartite board after public hearing. (2) Minimum wages were to be fixed in industries in which wages had fallen below the reasonable value of the services rendered or below an amount sufficient to maintain a decent standard of living. Tripartite boards, with trade union representation wherever possible, were to make the determinations. Minimum wages should apply to all employees, but the bill would not be opposed if their application was limited to women and children.[1]

On the following day President Green expressed the views of the Federation's Executive Council. He did not approve the increase in maximum hours, but accepted it on the ground that it represented the viewpoint of the Labor Department and the Administration. Minimum wages, however, were opposed, except insofar as they applied to women and children. The federation traditionally rejected legal minimum wages, since they tended to become maximum wages and thereby lowered the rates of high-paid workers. The tripartite boards would not act in the interest of labor where collective bargaining did not exist. He urged, therefore, that the bill be amended to guarantee workers "the free exercise of the right to belong to a *bona fide* labor organization and to collectively bargain for their wages through their own chosen representatives."[2]

Strong dissent from the AF of L position on minimum wages was expressed by several industrial unions which represented low-paid workers and which, it is worth noting, later were active in the establishment of the CIO. The United Mine Workers and the Amalgamated Clothing Workers endorsed minimum wages for all workers. Emil Rieve, president of the American Federation of Full-Fashioned Hosiery Workers, AF of L, pointed out that the Executive Council of the Federation in large part represented unions which did not face national competition, principally the building trades. Through their economic power they were able to maintain higher wage levels in one area than in another without

posals offered by the Secretary of Labor before H.R. Committee on Labor, pp. 18, 20.

1. Ibid., pp. 2–16.

2. Ibid., pp. 61–90.

suffering thereby. In mass production industries wage floors were necessary to protect men as well as women and children.[3]

Spokesmen for industry testified in opposition to the bill and the Perkins amendments. Several industrialists proposed crippling amendments that would have destroyed the purpose of the measure.[4]

On May 10 the Committee on Labor unanimously reported out a bill which departed radically from the one adopted by the Senate and marked an extreme concession to the views of organized labor. It proposed a Federal Trade Regulation Board of three, consisting of the Secretary of Labor, an employer, and a labor representative. This Board would license business concerns to engage in interstate and foreign commerce (1) which were affiliated with trade associations that made collective agreements with trade unions or (2) which accepted regulations of the Board with regard to wages, working conditions, and limitations of production Licensees were required to maintain the five-day week and six-hour day. The Board would deny licenses to employers who did not pay wages sufficient to maintain standards of decency and comfort, made yellow-dog contracts, or interfered with the right of their employees to organize and bargain collectively through representatives of their own choosing.[5]

The bill was already doomed, however, since the President had decided to throw his full weight behind NIRA. Administration support was withdrawn on May 1, and the committee report was buried in the House Rules Committee from which it was not permitted to reach the floor. The President had concluded that the support of industry was vital to the recovery program and that the Black-Connery bills could not gain such support. Activity on the preparation of NIRA, therefore, was proceeding under forced draft.[6]

III. The National Industrial Recovery Act

Organized labor of necessity played a secondary rôle in the drafting of the National Industrial Recovery Act, since its primary interest lay in the Thirty-Hour Bill. The indirect influence of

3. Ibid., pp. 884, 957–962, 967.
4. Ibid., pp. 91–92, 199, 511, 707, 713.
5. 73d Cong., 1 Sess., H.R. Report No. 124, Thirty-Hour Week Bill, May 10, 1933.
6. Department of Commerce, Division of Industrial Economics, "Staff Studies," M. W. Watkins, p. 120 (National Archives, ms.); Moley, op. cit., p. 187; Congressional Record, Vol. 77, Pt. 6, p. 5805.

labor, however, was considerable. The Administration considered the enlistment of labor support for the recovery program indispensable to its success. Since the codes of fair competition represented a concession to business, labor was granted a guarantee of collective bargaining in Section 7(*a*), which took over almost verbatim the language of earlier legislation that organized labor had obtained after years of agitation. In addition, the bill embodied features of several other bills sponsored by labor which were then under consideration, namely, the Davis-Kelly Coal Stabilization Bill, drafted by the United Mine Workers and the House version of the Thirty-Hour Bill.[7]

When the Roosevelt Administration took office on March 4, 1933, it lacked a recovery program and a labor policy. NIRA, therefore, was improvised under great pressure in a limited period of time. Two groups were responsible for the drafting of the bill, one gravitating about Senator Wagner, the other about Raymond Moley and General Hugh Johnson. These worked independently at the start, but later joined to produce the final bill. The Wagner group was the first in the field and worked out the basic draft of the bill, including Section 7(*a*). The Moley-Johnson group, however, exerted greater influence at the end and obtained control over the National Recovery Administration after passage of the Act.[8]

Senator Wagner was selected by the President in March, 1933, to hear the proponents of various recovery plans, with a view to the drafting of legislation. He called a series of large conferences early in April, which included leading businessmen, economists, and politicians. No one directly representing organized labor was present. After several sessions Wagner appointed a committee, consisting of Dr. Harold Moulton of the Brookings Institution, Dr. Meyer Jacobstein, a former Congressman and at that time a Rochester banker, the New York lawyer David Podell, and the labor economist W. Jett Lauck, to draft a bill. The draft provided for the regulation of business by trade associations, labor's right to organize and bargain collectively, and, to please the Senator, a public works program. At that stage, Jerome Frank,

7. Brissenden, op. cit., pp. 35–39; National Recovery Administration, Division of Review, Section 7(*a*): Its History, Interpretation and Administration, March, 1936, pp. 12–13.

8. Interviews with Dr. Meyer Jacobstein, September 6, 1945, and W. Jett Lauck, September 14, 1945.

general counsel of the Department of Agriculture, and John Dickinson, Assistant Secretary of Commerce, were added to the group. Frank was insistent upon the collective bargaining feature, already designated as Section 7(*a*), and he became the principal watchdog over it as the bill moved from one draft to another.[9]

On April 11 the President directed Raymond Moley, Assistant Secretary of State and his leading "brain-truster," to work on an industrial recovery measure. Being occupied with other matters, Moley asked General Hugh Johnson to aid in drafting a bill. Moley and Johnson concurred on the self-regulation of business through trade associations, but displayed no interest in either a public works program or a labor policy. Neither was an expert on labor problems and both regarded labor as secondary in business recovery. Labor's political strength, however, as demonstrated in the Black bill, made it clear that concessions would have to be made to organized labor. They therefore called upon Donald Richberg, general counsel of the railroad brotherhoods, though acting in a private capacity here, to assist them with this phase of the draft. He worked out in general terms a statement of collective bargaining probably based upon the draft of the Wagner group.[1]

Early in May President Roosevelt called a conference of both groups at the White House which agreed on a bill to include the self-regulation of business, collective bargaining, and a public works program. At the conclusion of the meeting, the President appointed a committee, consisting of Budget Director Lewis Douglas, Wagner, Johnson, Richberg, Dickinson, Assistant Secretary of Agriculture Rexford Tugwell, and Secretary Perkins, and directed them to lock themselves in a room and bring out a unified, concise bill. After the preliminary sessions, the last three dropped out, and the drafting was carried on by Douglas, Wagner, Johnson, and Richberg in almost continuous sessions in Douglas' office. At first, the AF of L had no voice in the deliberations of the committee, but it was later invited by Secretary Perkins to express its

9. Interviews with Dr. Meyer Jacobstein, September 6, 1945, and W. Jett Lauck, September 14, 1945; Roos, op. cit., pp. 38–39.

1. Moley, op. cit., pp. 187–188; Hugh Johnson, The Blue Eagle from Egg to Earth (Garden City, 1935), pp. 201–203; Donald R. Richberg, The Rainbow (New York, 1936) p. 106; Joseph Alsop and Robert Kintner, Men around the President (New York, 1939), pp. 36–37; John T. Flynn, "Whose Child is the NRA?", Harper's, September, 1934, pp. 390–392, interview with W. Jett Lauck, September 14, 1945.

views. The AF of L did not, however, participate directly in the writing of the final draft.[2]

Despite labor's secondary rôle, the widespread concern over unemployment and the Administration's desire to conciliate the labor interests combined to produce a bill which included in one form or another the Federation's major legislative objectives.[3] The Declaration of Policy at the beginning of the bill stated, among other things, that it was the intent of Congress to promote the joint action of labor and management under government supervision, to increase purchasing power, to reduce and relieve unemployment, and to improve the standards of labor. Section 3 authorized the President to require, as a condition of his approval of codes, provisions for the protection of employees. Section 4(*a*) granted the President authority to approve agreements of labor organizations and employers. Section 7(*a*) read as follows:

> Every code of fair competition, agreement, and license approved, prescribed, or issued under this title shall contain the following conditions:
>
> (1) that employees shall have the right to organize and bargain collectively through representatives of their own choosing,
>
> (2) that no employee and no one seeking employment shall be required as a condition of employment to join any organization or to refrain from joining a labor organization of his own choosing, and
>
> (3) that employers shall comply with the maximum hours of labor, minimum rates of pay, and other working conditions approved or prescribed by the President.

Under Section 7(*b*) employers and employees were afforded the opportunity to reach agreements with respect to wages, hours, and working conditions which were, when approved by the President, to have the force of codes of fair competition. Where such agreements did not exist, the President was authorized in Section 7(*c*) to fix maximum hours, minimum rates of pay, and other working conditions, in order to effectuate the policy declaration, which conditions were then to have the effect of codes.

Under Title II — Public Works — the President was empowered to create a Federal Emergency Administration of Public Works with an appropriation of $3,300,000,000, which was to prepare a comprehensive program of construction, repair, and improvement of the highways, public buildings, and other publicly-owned

2. Roos, op. cit., pp. 39–40; Richberg, op. cit., pp. 107–109.

3. 73d Cong., 1 Sess., National Industrial Recovery, Hearings on H.R. 5664 before Committee on Ways and Means, May 18–20, 1933, pp. 1–7.

facilities, of conservation and development of natural resources, of low-cost housing and slum clearance, of army and navy construction, and of other projects. Contracts were to be required to meet the following labor conditions: (1) no convict labor, (2) a thirty-hour week, (3) just and reasonable wage rates, and (4) veterans' preference.

President Roosevelt submitted the bill to Congress on May 17, 1933, and on the following day the House Ways and Means Committee began hearings. These lasted only three days and led to important changes in Section 7(*a*). A conference of the constituent unions of the AF of L had just voted to insist on changes in both clause (1) and clause (2) of 7(*a*).[4] On May 19, therefore, Green proposed certain amendments. First, that clause (1), which read "employees shall have the right to organize and bargain collectively through representatives of their own choosing" should continue "and shall be free from the interference, restraint, or coercion of employers of labor or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection." This amendment was taken verbatim from the Norris-LaGuardia Act, in order to emphasize the right of organization and the exercise of collective bargaining. He also proposed that in clause (2) the words "company union" be substituted for "organization," so that it should read "no employee and no one seeking employment shall be required as a condition of employment to join a company union, or to refrain from joining a labor organization of his own choosing." This amendment was designed to safeguard the closed shop, which might be defined as "any organization." In his view, the intent of the drafters was to confine attention in this clause to the company union. He declared that if these amendments were adopted, the AF of L would endorse the bill without qualification. The bill would provide employment for six million and would serve as a means of realizing the six-hour day and the five-day week. He asked that the sum to be spent on public works be raised to $5,000,000,000.[5]

4. The conference also voted to refer to the Executive Council action with respect to the protection of labor against foreign competition, a tacit admission that at least this aspect of the Connery bill had been side-tracked by the Federation in favor of NIRA. Proceedings of the 53d Annual Convention of the American Federation of Labor, p. 41.

5. Hearings, National Industrial Recovery, op. cit., pp. 117–131.

Henry I. Harriman, president of the United States Chamber of Commerce, did not discuss the labor provisions of the bill in his testimony before the Committee. In fact, no representative of industry raised any objections to Section 7(*a*) or to the AF of L's proposed amendments. There is reason to believe that an agreement had been reached by the AF of L and the Chamber of Commerce, in which the Federation offered to support the business provisions of the bill in return for Chamber support for Section 7 (*a*). Senator Wagner, who served as the Administration spokesman in presenting the bill to the Committee, gave the AF of L amendments his enthusiastic endorsement. On May 23 the bill was reported out favorably by the Ways and Means Committee with the amendments to 7(*a*) proposed by the Federation.[6]

The bill was disposed of by the House with unusual speed. Debate was limited by the cloture rule and amendments were restricted to those introduced by the Committee. There was no discussion of the labor provisions or, with one minor exception, of the labor-sponsored amendments. After only two days of debate, the House on May 26 passed the bill with the AF of L amendments by a vote of 325 to 76.[7]

Hearings were conducted by the Senate Committee on Finance between May 22 and June 1. The hearings were marked by a sharp change in the attitude of employers from apparent acceptance of the labor sections to vigorous opposition. Representation of the employer viewpoint passed from the Chamber of Commerce to the National Association of Manufacturers. Robert L. Lund, president of the Association, warned that Section 7 might destroy existing welfare organizations which supplied sickness insurance, group life insurance, and other benefits, and that employers would be forced to deal with communistic or racketeering organizations. He called an emergency meeting of the manufacturers for June 3 to fight the labor provisions. The conference proposed changes, despite restraining efforts by General Johnson, "to make it clear that there is neither the intention nor the power to reorganize present mutually satisfactory employment relations, nor to estab-

6. Ibid., p. 122, 73d Cong , 1 Sess., Report No. 159, Report of the Committee on Ways and Means on H.R. 5755, May 23, 1933. Interview with Dr. Meyer Jacobstein, September 6, 1945.

7. Congressional Record, Vol. 77, Pt. 4, pp. 4220–4221; Pt. 5, p. 4373.

lish any rule which will deny the right of employers and employees to bargaining individually or collectively."[8]

James A. Emery appeared before the Finance Committee to present the views of the NAM. He charged Section 7 with seeking "to mold the employment relations of the United States into a single form" — the trade union — in violation of the prerogative of every American to bargain individually or collectively as he desired. He asserted that the right to refrain from membership in a private association was as precious as the right to associate. He claimed that three times as many workers were organized under employee representation plans (company unions) as were members of trade unions and that any attempt to undermine the former would be disruptive. It would jeopardize recovery to inject uncertainty into the field of industrial production by disturbing existing satisfactory relations. This, in any case, was not a function of the Federal Government. He proposed, therefore, that Section 7 be removed from the bill, since employees were adequately protected by the powers granted to the President in Section 3. If, however, the Committee was of the view that a statement of employment relations was essential, he urged that the following be added to Section 3:

> (e) In every code of fair competition in any trade or industry or subdivision thereof approved by the President under either subsection (*a*) or subsection (*d*) of this section the provisions for the protection of employees shall include the following conditions:
>
> (1) That employers and employees shall have the right to organize and bargain collectively in any form mutually satisfactory to them through representatives of their own choosing.
>
> (2) That no employee and no one seeking employment shall be required as a condition of employment to join or refrain from joining any legitimate organization, nor shall any persons be precluded from bargaining individually for employment.[9]

Charles R. Hook, president of the American Rolling Mill Company, was the first of several spokesmen for the traditionally open-shop steel industry to attack the labor conditions of the bill. Section 7, in his view, endangered "the happy relationship which has existed between employer and employee in this country during the past ten years, and particularly during this period of great

8. New York Times, May 18, 1933, p. 11; May 31, 1933, p.11; June 4, 1933, p. 2.

9. 73d Cong., 1 Sess., National Industrial Recovery, Hearings on S. 1712 and H.R. 5755 before Senate Committee on Finance, pp. 284–288.

personal and corporate suffering. . . ." He proposed, therefore, that Section 7 as adopted by the House be amended in such a manner as to undermine the legality of the closed shop and to protect the company union.[1]

Robert P. Lamont, appearing in behalf of the American Iron and Steel Institute, declared:

> The industry stands positively for the open shop; it is unalterably opposed to the closed shop. For many years it has been and now is prepared to deal directly with its employees collectively on all matters relating to their employment. It is opposed to conducting negotiations concerning such matters otherwise than with its own employees; it is unwilling to conduct them with outside organizations of labor or with individuals not its employees. The industry accordingly most strongly objects to the inclusion in this pending bill of any provisions which will be in conflict with this position of the industry, or of any language which implies that such is the intent of the legislation. If this position is not protected in the bill, the industry is positive in the belief that the intent and purpose of the bill cannot be accomplished.[2]

The stiffening in the attitude of employers appeared in a letter submitted to the Committee by President Harriman of the Chamber of Commerce, which contrasted with his earlier views. He now asked that changes be introduced into Sections 6 and 7 to make it clear that the principles of the open shop were not contravened.[3]

John L. Lewis, president of the United Mine Workers, spoke in behalf of his union and the Federation in reply to the position taken by the NAM and the steel industry. The Federation, he said, stood foursquare behind Section 7 as adopted by the House. He caustically pointed out the change in the attitude of industry. The steel industry, he charged, actually practiced a closed shop, that is, an employee who joined a union was denied employment in the mills. The recovery bill would make it not only possible but virtually mandatory for employers to join trade associations for their own protection. Labor asked for the same right. Organized labor, he warned, stood "between the rapacity of the robber barons of industry in America and the lustful rage of the Communists . . . the one is almost as great a menace as the other." He reassured industry that Section 7 did not destroy company unions that were already in existence if the employees wished to remain members. It did declare that employers could not make membership in them a condition of employment.[4]

1. Ibid., pp. 389–390.
2. Ibid., pp. 394–395.
3. Ibid., p. 408.
4. Ibid., pp. 404–407.

The Committee on Finance concluded its hearings on the bill on June 1. On the following day Senator Walsh proposed that clause (2) of Section 7(*a*) be amended by the addition of the words "organizing or assisting," so that the clause would read: "No employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, *organizing or assisting* a labor organization of his own choosing." The Senator pointed out that the right of collective bargaining could not be assured without the abolition of yellow-dog contracts and that such contracts often not only denied employees the right to join unions but also the right to engage in organizing or assisting labor organizations. He asked, therefore, that the clause be broadened to cover all contingencies. This amendment was supported by the AF of L. His proposal was accepted by the Finance Committee.[5]

In its report of June 5 the Committee made a major concession to the views of organized industry in clause (1) of 7(*a*). The changes were proposed by Senator Clark of Missouri, were adopted unanimously by the Committee, and were endorsed by Donald Richberg and General Johnson. The amended clause read as follows (amendments in italics):

> (1) That employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint or coercion of employers of labor, or their agents, in the designation of such representatives or in *self-organization* or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection. *Provided, That nothing in this Title shall be construed to compel a change in existing satisfactory relationships between the employees and employers of any particular plant, firm, or corporation, except that the employees of any particular plant, firm, or corporation shall have the right to organize for the purpose of collective bargaining with their employer as to wages, hours of labor, and other conditions of employment.*[6]

Though this proviso was not so unfavorable to labor as those advanced by industry, it did give sanction to the company union. It was denounced by the AF of L, which declared itself prepared to oppose the bill if the amendment were not withdrawn, and it led to extended debate on the floor of the Senate.[7]

5. Congressional Record, Vol. 77, Pt. 5, p. 4799.

6. 73d Cong., 1 Sess., H.R. 5755, Calendar No. 130 (S. Rep. No. 114) p. 10; Congressional Record, Vol. 77, Pt. 6, p. 5280.

7. American Federation of Labor, Weekly News Service, June 10, 1933; proceedings of the 53d Annual Convention of the AF of L., p. 16.

The Finance Committee also proposed an amendment to the labor conditions set forth in Title II. The amendment required that contracts let for Federal construction contain minimum wage rates determined by the awarding authorities. This provision was opposed by the AF of L, which preferred to have rates set through collective bargaining.[8]

The Senate debated the bill between June 7 and 9. It was presented by Senator Wagner, who dwelt at length on the labor provisions — the recognition of the right of employees to organize and bargain collectively, the prohibition of yellow-dog contracts, and the establishment of standards of hours, wages, and working conditions approved by the President. He emphasized that minimum wages would provide a safeguard against depression by dispersing purchasing power through the economy and would remove the dangers to public health and morals flowing from the existing wage structure. The public works program, he contended, would create three million jobs, and the bill contained safeguards for workers employed on such projects.[9]

The proviso on "existing satisfactory relationships" was adopted by the Senate without debate. Senator Norris, however, called for a reconsideration and moved that it be struck from the bill on the ground that it legalized the company union, which he regarded as one of the major evils in labor relations. Senator Clark defended the Committee's position without dealing directly with the problem of the company union. He cited the facts that the proviso had been adopted unanimously by the Committee, had been warmly accepted by Richberg after he suggested using the word "satisfactory," and had been endorsed by General Johnson. A roll call vote led to the defeat of the proviso, 46 to 31. The vote presented a clear issue between those who wanted to promote the free trade union and collective bargaining and those who desired to establish an equality of status between the trade union and the company union.[1]

Senator Wheeler then proposed the introduction of a fourth clause to 7(*a*) to prohibit the use of strike-breakers, as follows:

> And (4) that employers shall not transport or assist in transporting

8. Congressional Record, Vol. 77, Pt. 6, pp. 5349–5350.
9. Ibid., Vol. 77, Pt. 5, pp. 5153–5157.
1. Congressional Record, Vol. 77, Pt. 5, pp. 5279–5284; Lorwin and Wubnig, op. cit., p. 43.

employees from one State, county, city, or place to another for the purpose of taking the place of men out on strike.

He charged that the introduction of strike-breakers had proved to be the chief cause of bloodshed and riot in those communities in which there had been labor difficulties. The proposed amendment was rejected without a roll call.[2]

The Committee amendment providing for minimum wage rates in contracts let under Title II was rejected after Senators Wagner and Copeland made it clear that the AF of L opposed the amendment.[3]

The conference committee of the House and Senate introduced no changes in the labor provisions. After final passage by both houses, the President signed the National Industrial Recovery Act on June 16, 1933.[4]

The passage of NIRA was hailed by organized labor as a great forward step. President Green declared: "Never was such an opportunity presented the workers to organize, to bargain collectively, and to be represented by men of their own choosing."[5] John L. Lewis was convinced that there had been "no legal instrument comparable with it since President Lincoln's Emancipation Proclamation of seventy years ago."[6] The AF of L took action at once under Section 7(*a*) by starting a major organizational drive. At the same time, however, employers began a similar campaign to organize workers into company unions.[7]

IV. Conclusion

Organized labor played an important rôle in shaping the National Industrial Recovery Act, both in the political strength that it mustered in Congress and in the drafting of the legislation. Although its primary objective — the compulsory thirty-hour week — failed of enactment as a result of Administration opposi-

2. Congressional Record, Vol. 77, Pt. 5, p. 5284.
3. Ibid., Pt. 6, pp. 5349–5350.
4. 73d Cong., 1 Sess., H.R. Rep. No. 243, Conference Report on H.R. 5755, June 10, 1933; 73d Cong., 1 Sess., Senate Document No. 76, National Industrial Recovery Act, H.R. 5755; New York Times, June 17, 1933, p. 1.
5. American Federationist, July, 1933, p. 693.
6. Annals of the American Academy of Political and Social Sciences, Vol. 172, March, 1934, p. 58.
7. Richberg, op. cit., p. 128; New York Times, June 16, 1933, p. 14.

tion, the support that measure received served as a lever for the incorporation of other demands into the Act. Representatives of organized labor did not participate directly in preparing the final draft of the bill presented to Congress by the Administration, but their views had been solictied, and significant changes were made in Committee at their suggestion. In one form or another the National Industrial Recovery Act embodied most of organized labor's major legislative objectives at that time, notably a guarantee of collective bargaining and a public works program and, through collective bargaining and the code authorities, the prospect of some shortening of the hours of work.

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INTERNATIONAL PAYMENTS IN NATIONAL INCOME

I

One of the dubious items in calculating national income is international payments. There are various ways of dealing with it, and these reflect mainly controversies concerning definition. The most conspicuous example is the debate between Dr. Copeland and Dr. Kuznets on the question of including or excluding immigrants' entrance capital and immigrants' remittances.[1] Needless to say, each is right according to his definition, and each is wrong if the opposite definition is applied. If national income is defined, following Dr. Kuznets, as the net product of the nation's productive resources, of course only the net receipts of interest and dividends on international account should be included. (Dr. Kuznets' original definition of national income is the net product of the nation's economic activity, which Dr. Copeland criticizes as not making clear whether the receipts of interest and dividends result from the economic activity *in* or *of* the nation. In reply, Dr. Kuznets indicates that what he really means is the net product of the nation's productive resources.) However, the question whether we should also regard citizens residing overseas as included in the nation's productive resources, and their earnings as part of the net product, has been left unanswered. If national income is defined as the income received in the nation, there is no doubt that items like immigrants' remittances and immigrants' entrance capital should be included.

This argument runs in terms which imply that the problem centers around the definition of national income and the way to adjust the items in international payments to the definition. But the problem goes deeper than that. There are three principal methods used in calculating national income: the value added method, the income received or payment method, and the consumption and investment method. The result of each, theoretically, should be identical with the others. In fact, as many compilations indicate, they are not identical. If the difference among the results is due to statistical difficulties, no theoretical question is involved. But if the difference is due to inconsistencies in treating the items

1. Studies in Income and Wealth, Vol. I, Part I.

by various methods, it requires examination and explanation. In fact, there are inconsistencies in treating specific items. A survey of the definitions of national income and the methods used in calculating it in several countries will make this point clear.

In estimating the national income of the United Kingdom for 1924, Sir Josiah Stamp and Dr. Bowley use the income received method and define aggregate income as the total income arising within the United Kingdom, disposable income as the aggregate income minus income belonging to non-residents and plus income received from abroad, social income as the disposable income minus transfer items.[2] The items subtracted from, and added to, the aggregate income are international out-payments and in-payments. The items subtracted are investment income belonging to foreigners, and public interest payments to foreign countries, while the items added are investment income and reparation payments from abroad. Another estimate, by the consumption and investment method, for about the same period is made by Mr. Feavearyear.[3] He begins by calculating the money that consumers spent for various items such as food, rent, clothing, fuel and light, etc., then adds the money that consumers invested in houses, furniture and capital goods, and finally tries to get a total income identical with that obtained by Sir Josiah Stamp and Dr. Bowley. Of course, in view of the inadequacy of materials available and the impossibility of great accuracy, the two estimates are not identical, and there is a considerable residual called "balance unaccounted for." But, even on theoretical grounds, ignoring all other considerations, they cannot be identical with each other. The Balance of Payments of the United Kingdom for 1933 carries an item called "Estimated net receipts from other sources," which includes, besides others, emigrants' remittances and savings of returning migrants.[4] These must have constituted a source of national expenditure and investment, and, therefore, enlarged or reduced the income total estimated by the method of consumption and investment.

The United States national income estimates offer another illustration. Dr. Kuznets makes use of all three methods mentioned

2. The National Income, 1924.

3. "Spending the National Income," Economic Journal, March, 1931.

4. Board of Trade Journal, February 22, 1934. The previous issue of this Journal is not available to the present writer, who, however, thinks these items must have appeared in the Balance of Payments for 1924 also.

above.[5] (His definition of national income has already been quoted.) There is no doubt that the results obtained from the method of income produced and the method of income distributed should be identical, since the income distributed is the algebraic sum of the income paid to individuals and of the net saving of all enterprises. They are the same figure presented in two different ways. International payments included in these two methods are interest and dividends received from, and paid to, foreign countries. They are added to and deducted from the items of property income payment, when the method of income distributed is used, or allocated in mining or manufacturing industry, when the method of value added is applied.[6]

As to the estimate by the method of consumption and investment, Dr. Kuznets regards it as an algebraic sum of the value of the products that individuals consume, plus their aggregate savings, plus net savings of enterprises. He does not calculate the products at the point where they are actually consumed and saved, because of the lack of data, but takes instead the total product as equal to (1) the value of finished commodities and services reaching their destination, plus (2) changes in stock of all finished commodities not at their destination (in circulation) and of all other commodities, plus (3) the net change in claim against foreign countries. (1) and (2) represent the goods and services produced, while (3) is the net international in-payments or out-payments, the total value of which, of course, theoretically, should be identical with those obtained by former methods. But, for studying the value apportioned between consumption and investment, which is the chief purpose of this approach, the treatment of the international payments is not satisfactory. *A priori* income receipts from, or payments to, foreign countries cannot be classified as used for consumption rather than for investment, or identified as products in perishable, semi-durable, or durable form. Unless we know how much of this net change in the claim against foreign countries is actually spent on consumption or investment goods, it is indeed impossible to apportion it between consumption and investment. In the absence of such information, Dr. Kuznets regards the net

5. National Income and Capital Formation, 1915–1935.

6. We find the explanation nowhere in Dr. Kuznets' book. But in the book, National Income in the United States 1929–35, published by the United States Department of Commerce, based on a study which was directed by Dr. Kuznets, the explanation has been given.

change in claim as net investment; and this is not only arbitrary but tends to overstate investment.

The Swedish economists, fully aware of the complications, intentionally limit the scope of estimates to income derived from agents of production within the country, when they apply both the method of value added and the method of consumption and investment for calculation.[7] It is easy to see that under this definition the economy is assumed to be closed, the complications introduced by international payments are avoided, and the sum total of consumption and investment will, of course, equal the sum total of net product of the different industries. Had the statistical data enabled them to follow the procedure that Dr. Kuznets uses in calculating the total value of consumption and investment, the identity would certainly have been achieved, at least theoretically. But the calculation of the debit items for each industry has forced them to devise a method for computing from production and trade statistics the internal supply of various categories of commodities and services, from which not only the value of raw materials used by industries can be calculated but also the sum total of consumption and investment. This device is indeed very ingenious, but through its use the identity of the results calculated by the two methods has been lost. For, according to the device, the sum total of consumption and investment is equal to inland consumption+inland investment+import for consumption+import for investment−export for consumption−export for investment. This total, as they realize, need not agree with the total income produced within the country, save that exports equal imports. In fact, this condition is rarely met. If there is an export or import surplus, the net international out-payments and in-payments must reflect this magnitude, and the total value will accordingly be reduced or enlarged. However, it is not impossible, in using this device, to isolate the effect of international payments by way of eliminating the imports and only taking exports and inland consumption and investment into account. But in that case what one gets is the sum of inland total consumption and investment plus exports, not the total consumption and investment of the inlanders, which is of greater significance.

7. E. Lindhal, E. Dahlgren, and K. Kock, National Income of Sweden, 1861–1930.

II

So far we have revealed the nature of the problem in dealing with international payments in national income studies. We now discuss the principle upon which we shall treat this problem, and accordingly which items in international payments shall be included or excluded. In the following discussion, we take the balance of international payments of the United States as illustration, from which we shall point out how to dispose of the various items under different principles.

There are generally four large items in the balance of international payments: merchandise, gold, services, and capital, the inclusion or exclusion of which in calculating national income depends upon what concept and what method we use. One word must be said at the very outset. The figures of international payments used in calculating national income are generally obtained from the balance of payments, and the items which enter into a balance of payments are generally computed on the basis of residence rather than nationality. The published American balance of international payments brings out this point very clearly. "In the compilation of the items which enter into a balance of payments statement, the fact of residence, rather than nationality, is ruling. Thus, for example, the expenditures of alien residents of the United States visiting in foreign countries are considered as payments by "American " to foreigners, and income derived from investments in this country by United States citizens permanently residing abroad is similarly classified. Again, the United States branches and affiliates of foreign corporations are treated, from a balance of payments point of view, as domestic entities, and the foreign subsidiaries of American corporations as foreign entities — in either case upon the basis of domicile."[8] According to this statement, it is incorrect to say that the net claim against foreign countries is the net product of the nation's economic activity or productive resources, because if we interpret investment in foreign countries as part of the nation's economic activity, the logical outcome is to add the international in-payments to the income arising within the national boundary, but not at the same time to deduct the international out-payments from it. The interest and dividends produced in the United States, let us say, and paid to residents

8. The Balance of International Payments of the United States in 1938, United States Department of Commerce, p. 1.

abroad are the net product of the nation's economic activity, and accordingly they should not be excluded. The calculation of national income is fundamentally also on the basis of residence rather than nationality. Not only do the statistical data available not allow us to set the income of foreigners apart from that of citizens; but, even if this could be done, the economic meaning would be lost.

The international in-payments or out-payments should be added and deducted only on the principle of income-disposable as Dr. Bowley defines it. The income received from abroad is the available income that can be disposed of in the country, and the income paid to foreign residents is the income that can not be disposed of in the country. According to this principle, then, what items in international payments should we include? The conventional treatment only takes into account the services arising from investment. This seems to be incorrect. Merchandise and gold are doubtless not to be included, because the incomes arising from these commodities have already been counted in various other items. But there is no reason why items in "other services," such as immigrants' and emigrants' funds, immigrants' and emigrants' remittances, missionary and charitable contributions, and government receipts and expenditures shown in American Balance of Payments[9] should not be included. Other services in this group, such as ocean freights, port fees, railway transportation charges, insurance underwriters' commissions, brokerage receipts, telegraph and telephone charges, Canadian electric power, moving picture film royalties, press subscriptions, patents, copyrights and royalties, and advertising should also be included, if they have not been counted in the income of particular industries. Only items like tourists' expenditures and diplomatic and similar expenditures should be left out, because such receipts are not disposed of by the residents in the United States, and such income payments are not disposed of by the residents in foreign countries. As to the capital items, they should likewise be included. The capital credited or debited results either in goods or services imported or in goods or services exported, which produces the same effect on income disposable as other income received from, or paid to, foreign countries.

The national income of Hungary was calculated more or less

9. Balance of Payments, 1937, League of Nations.

according to the above principle. "From amongst payments from abroad the following have been taken into account: interest, dividends, remittances of emigrants, fees collected by Hungarian legations and consulates, and the fees remitted to the post office for postal, telegraphic and telephone services; from amongst payments due to foreign countries besides the items given above, reparation payments, fees for foreign films, and pensions due to pensioners residing abroad. Personal payments (fees of doctors, lawyers, royalties, etc.) have been neglected, owing to their relative unimportance and the impossibility of obtaining reliable figures. International payments incurred in connection with tourist traffic have already been accounted for under other headings."[1] The capital item was not included, nor was the item subject of any comment. We can only guess that that was due to the conventional distinction between the concepts of capital and income, and on this basis the capital item should not be included. But from the income disposable point of view, the inward or outward movement of capital is in no way different from any other income received from, or paid to, abroad. During a certain period, funds thus received or paid are disposed of in the form of investment or consumption goods, just as is other income. Clearly, the capital item is an essential element of the disposable income in a country. For an increase or decrease of disposable income due to capital movement furnishes part of the material for explaining economic activity within a country. We term the above principle the principle of income-disposable.

The treatment of international payments is sometimes on the principle of income produced. Expenditures by tourists and remittances to families in different countries are regarded as the utilization of income, rather than net income payments, and other items like merchandise trade and shipping service balance are considered as gross income, and not net income payments. Income produced in a country may be augmented or reduced only by the flow of net income payments like interest and dividends received from, and paid to, foreign countries.[2] As we have remarked in passing in the above paragraph, it is illogical, on the one hand, to consider interest and dividend payments on government or private

1. M. Matolcsy and S. Varga, The National Income of Hungary, 1924–25 to 1936–37, p. 34.

2. National Income in the United States 1929–35, United States Department of Commerce, p. 8.

securities held by foreign residents as income produced, and on the other, while dealing with international conditions, to deduct these from the income total. These interest payments and dividends are produced in the country, they constitute a part of the nation's economic activity. If one does think they should be deducted, then there is no reason why only that part entering into international out-payments should be deducted, since the income produced may not equal the sum paid to foreign residents. The item, the net change in claim against foreign countries, tells us nothing about how much we produced but how much we received from, or paid to, foreign countries. Moreover, if we stick to the principle of income produced, it seems that not only inpaid interest and dividends should be included; we should include overseas remittances as well. Labor, like capital, can be regarded as part of the nation's productive resources; and, in the same way, labor earnings like the yield of capital can be regarded as produced income. The objection to including overseas remittances as stated above is not on a sound basis. Overseas remittances and capital yield are both net income payment, and capital yield is just as surely the utilization of income, when it is spent, as is labor earnings. It is very difficult to figure out whether interest and dividend payments are the total amount produced, because additional savings may be accumulated to the account of the stockholder. The same reasoning can be applied to ocean freight, port fees, railway charges, insurance underwriters' commissions, brokerage receipts, telegraph and telephone charges, government receipts, film royalties, press subscriptions, patents, copyrights and royalties, and advertising if these items have not been taken into account in calculating the income in particular industries. The argument against including shipping service balances because it is a gross income payment is also not convincing. Whether it is a gross payment or net payment is not a problem of principle here, but a problem of calculation. We conclude that if we take the concept of income produced and include international payments, we should not only add interest and dividends received from abroad, but also the items listed above, and at the same time should make no corresponding deduction from the income totals. The result we thus get is the total net product of the nation's economic activity as Dr. Kuznets defines it. We term the above treatment the principle of income produced.

The last problem we wish to discuss is how to maintain consistency when more than one method is used. We have pointed out the defect of prevailing calculations in the above section, and now we try to offer a solution. The statistical materials available often compel us to resort to trade reports in calculating consumption and investment. The latter total can be made equal to production plus imports minus exports. But, in doing this, the total must be larger than the total income derived from the country, if exports are smaller than imports, and must be also larger than the total income received in the country, if net import is larger than net claims of interest and dividends against foreign countries. These complications have been pointed out by Swedish economists. As they say, "The total consumption and savings of the inlanders will be larger than the total consumption and investment in the country by the amounts by which (*a*) the inlanders' consumption abroad exceeds the inland consumption of foreign visitors, and (*b*) the inlanders' investment abroad exceeds foreign investment in the country." Again, "the total income of the inlanders will exceed the total of inland consumption and investments by the amounts of both the surplus income of the inlanders from abroad and of the export surplus (of goods and services)."[3] The total consumption and savings of the inlanders and the total income of the inlanders are, in other words, the disposable income in the conventional sense, while the total consumption and investments in the country and the total of the inland consumption and investments are the income actually spent and invested in the country. If inlanders' net consumption and investments abroad equal the sum of their net income surplus abroad and the export surplus, then the above four totals are equal to one another. If not, they are not equal. To go more into detail, let us assume, on the one hand, that we calculate income-disposable by Dr. Bowley's definition, and on the other, we calculate consumption and investments in terms of production, exports and imports, then what adjustment of international payments should be made, aside from others, in order to attain consistency? The total consumption and investments calculated in this way includes not only both the expenditures of inlanders and that of foreign visitors, but also both the expenditures from the income derived within the country and that received from abroad. It includes all service items in the balance of payments,

3. The National Income of Sweden, 1861–1930, Part 1, p. 25.

comprising, besides others, tourists' expenditures and diplomatic and similar expenditures. It must be so, because tourists' and diplomatic expenditures must have affected imports and exports. If imports and exports were not affected, they must have raised the money value of consumption and investment goods. Therefore, to maintain consistency, either we must add these services in the income-disposable total, or deduct these services from the total o consumption and investment. Other services should likewise be adjusted by noting whether particular items have been included in the income-disposable total. Capital items are finally expressed in the export or import of goods and services, which has already been included in the sum total of consumption and investment calculated by the production and trade data. Thus, if the income-disposable total does not take account of capital items, an adjustment must be made in the total of consumption and investment. This solution is presented only as an exemplification of considerations by which different methods used in calculating two totals can be adjusted according to the same principle.

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POSTWAR EXCHANGE-RATE PARITIES: COMMENT

The present comment on Professor Garnsey's article[1] should be taken for what it is: a vindication, by one mainly responsible for the economic policy adopted in Belgium in 1935 in regard to foreign exchange, of the attitude then adopted on the basis of a somewhat new line of thought. Vindication is nevertheless an improper word, because Professor Garnsey's article purports to justify our action, and because criticism tends more to regard our Belgian experience as inconclusive than to criticize the policy pursued. Since I believe that the action we took in 1935 was scientifically correct, and that experience proved quantitative measurements to be adequate for action, it seems useful to point out how the principle of purchasing power parities can be used at present in settling the world's economic problems.

Our Belgian doctrine on this matter grew out of the classical theorems about the adaptations of international prices and costs, through two decisive steps. Gustav Cassel made the first one in 1917–1920 by stating the purchasing power parity doctrine; substantially it amounted to deriving exchange rates from given internal prices, instead of showing how prices were adapted when exchange rates were given. We made the second step at the Louvain Institute of Economic Research in 1933–1935, by a study of internal strains resulting from purchasing power disparities — the result being the search for a policy designed to relieve those strains, i.e. obviously the quantitative determination of the politically most suitable parities.

The 1935 Experiment

The aim of political action being to remove the severe strains introduced in our internal economy by foreign currency depreciation, parities of "political" value could not be defined uniquely by mathematical price relations. They were meant to bring about well defined business conditions: in 1935 these were the conditions of a normally expanding economy, with sufficient profits as inducements to curb the crisis and the slowly rising prices typical of any expansion before bottlenecks develop. In choosing such an aim no charge could be laid on us of seeking undue commercial

1. This Journal, November, 1945.

advantages, since these were precisely the conditions in surrounding countries and we were simply placing ourselves into line. The fact that the Belgian franc was devalued twenty-eight per cent, whereas Sterling was depreciated, like the United States dollar, about forty per cent, was sufficient proof that we had taken into account internal price adaptations carried out under the strain of severe crisis between 1933 and 1935. In defining our aim, our position was thus different from that adopted in 1934 in Czechoslovakia: that country's devaluation was insufficient, because they thought people were too poor, after the crisis, to afford any rise of prices — and events proved them to be wrong. On the contrary, we believed that we were too deep in the crisis to afford missing the stimulus of slowly rising prices. But, of course, this was contingent on the particular situation of 1935.

In appraising our quantitative measurements of purchasing power parities and the results obtained, it should be borne in mind that the method tends to measure present strains — and to correct them if, in our judgment, they are likely to last. They tend to establish conditions sufficiently near to equilibrium, so that any further necessary adaptation can be achieved by price changes without any noticeable strain. But they cannot guarantee the maintenance of equilibrium under later developments nor, of course, the maintenance of sound business conditions. They are simply a starting point for correct relations in the future, but no guarantee against future accidents; they should bear a character of permanency, in the sense that the new relations tend to maintain themselves, if correctly assessed; but they are guaranteed against no new impulse from outside.

I believe that events in Belgium between 1935 and 1939 warrant these conclusions: from April to November, 1935, the index of retail prices moved a few per cent upward, in relation with the secondary effects on import prices which we had expected and with a slight move of Sterling. Then they were stable until late in 1936, when a rise in relation with the world business cycle started. This second rise has nothing to do with the 1935 correction and should not be considered in appraising it. Anyway, parallelism between Belgian and world economic conditions was maintained, as was to be expected, if the move was correct; and when the political situation brought about several severe speculative outflows of capital, in 1938 and 1939, the National Bank of Belgium was able to meet

them by classical means, without any exchange control. No such thing could have happened with economically unbalanced conditions.

Of course, political action on purchasing power parities was taken with regard to the Sterling area alone as term of reference — the rate of correction of exchanges being unique and therefore in relation with the dominant area of influence. If this choice is considered correct, a further proof that our calculations were valid is to be found in commercial relations with Great Britain during the following years. Whereas the administration had to deal with many complaints of unfair competition and restrictionist measures relating to Belgian trade with France, Germany, and some other countries, no such complaint was met either way concerning commercial relations with Great Britain. Obviously, nothing happened that led commerce to consider administrative action necessary.

Our 1935 experiment raises the question of the validity of the key-currency approach as a matter of practical policy. Of course, a factual answer could be given in 1935, because the gold bloc was in process of disintegration, and reference to its prices would in due time become obsolete; but this is not conclusive, because it might have meant simply that we should have discounted future gold bloc prices, not that we could dismiss them. Furthermore, should not American prices have been considered also (this not being a practical question, as the figure would not have differed materially from a comparison with Great Britain, at that time)? But we did nothing of the sort and frankly adopted the key currency approach.

The arguments in favor of such an approach were not financial, but economic. In conditions of free exchanges and multi-lateral trade, which were ours in 1935, the question is not whether you need much sterling, dollar or peso exchange, as some present discussions of the Bretton Woods agreements imply; foreign monies can be traded one against the other at a relatively low cost. The real issue is: how far do the prices of one economic area impose themselves on the price system of another area? What internal strains do they develop, if the market requires adaptation to them in some cases, such as materials, while allowing for slower and less stringent adaptation in other cases?

The problem is therefore to know which price system is dominant in furthering the levelling of international prices, and that is

why it is one of purchasing power disparities, not of financial preponderance or of bilateral balances of trade. Even so, it is obvious that no single country is determinant for all prices of a given country and that commercial currents may have something to do with dominating influences in the price system. But this aspect should not be overstressed, and conditions of multilateral trade, in which no trade with the key country is involved, may be more important and include prices of greater strategic importance for internal conditions. The price of aspirin would, of course, depend on relations with Germany, but had no strategic importance. The price of coke, produced at home and exported in competition with British coke, and the price of copper, fixed in London but imported from our own colony, both depended on British prices and on the sterling area cost-price structure, and both were strategically important for Belgian conditions. On the basis of such considerations we believed that international prices determinant for Belgian economic conditions must overwhelmingly be those of the Sterling area or those maintained within a close range of Sterling area prices.

The key-currency policy is thus justified by its influence on internal conditions and in no way implies that commercial relations with a "key country" are most important. Our trade with Great Britain was never the largest, and it had recently received a very severe shock from the Ottawa agreements. If considered in this way, as it should when exchanges are free, the notion has nothing unpalatable about it. It simply recognizes the known fact that the price system is more closely dependent on the price systems of some neighboring countries than are the price systems of big countries on those of their neighbors. It is only a question of degree, and purchasing power disparities can originate between big price systems, such as those of Great Britain and the United States. But they allow of more leeway in the search for parity, as price-cost structures are relatively less influenced by each other. Computations are therefore nicer in the case of small countries.

1944 Conditions in Belgium

Attention having been drawn to purchasing power disparities by the success of 1935, the principle could not be left out of postwar policies. As a preparation for a wider discussion of its present implications, it may be interesting to show how we tried to apply

it in widely different circumstances, although nothing can be judged yet by results.

At liberation, in September, 1944, the problem of parities was obviously difficult, since it could have no immediate meaning. In 1935 it had been solved on the basis of existing conditions; in 1944 it could mean nothing but preparing for the best possible future parities, in relation with social aims and with our expectations as to economic reforms still to be pursued. Everything resting on expectations, many elements remained indeterminate and the problem very fluid. But two conclusions emerged from the haze.

1. There was nothing worth calling a price system left in Belgium, with the black market prices more effective in many cases than official prices for unobtainable merchandise. Whatever there was had little relation to costs of production at normal capacity, international raw material prices, and decent costs of distribution. Obviously prices should resettle much lower under normal conditions of production without the usual bane of deflation, and costs of the factors of productions were the only rational basis for policy. Wages were outstanding here and had only risen to one hundred thirty-three per cent of 1936–1938, although indirect help had been given to workers. The drastic reduction in real wages would create a strong pressure for increased nominal wages at liberation (as it did); but, allowing for this, wages should be the basis of calculations for the "redeployment" of the price system. This principle was accepted.

2. One should not accept the idea that, on the basis of the quantity theory of money, prices should finally increase in relation with the increase in the total monetary circulation of the country, as given on the date of liberation. Of course, there should be some final correct relation between prices and circulation; but by a rapid monetary reform, circulation could be drastically cut down, without reaction on costs of factors of production — the only thing that mattered at a time when all normal activity was at a dead stop. The expected future circulation thus entered into the problem, and the question was the intensity of the sacrifice the people were ready to accept in order to save the value of their monetary unit, with all that it implies. The good will of the people was enormous in this respect, and the circulation could thus be considered a variable rather than a constant in the problem, until the monetary reform was carried through.

In conditions of 1944, purchasing power parities therefore did not appear as problems of immediate equilibrium, but as limits to a policy of seeking normal prices and as goals for policy. Wages being increased by thirty-three per cent, parities did not entail a depreciation of the Belgian franc below the 1936–1938 level of one hundred forty-six francs to the pound, as British wages had increased at least as much, if the deflation of the monetary system could be carried that far. But an increase in nominal wages was inescapable, notwithstanding the fact that it could not solve the problem of real wages. The size of this increase was nevertheless difficult to appraise: in fact, when workers' organizations made their claims in September, 1944, they substantiated them by computations of purchasing power parities with Great Britain, on the basis of the new exchange rate; with another exchange rate the claims would have been different. The purchasing power parity doctrine had thus come to a point where it influenced internal policy. But the application was not quite correct: in these discussions about wages, prewar wages, taken as basis, were wages as of May 10, 1940. This was obviously no longer a logical base for economic comparison; but it was favorable for claims and carried nominal wages slightly higher than if comparisons had been made on the basis of 1936-1938, or even of the first six months of 1939, as should have been done.

The exchange rate of the Belgian franc had been settled outside Belgium before liberation, and was not determined by the above considerations, which were developed within the country and might have allowed action at a rate of, let us say, one hundred fifty francs to the pound, or approximately the prewar rate. In such a case the new principles of price reconversion and of monetary reform would have been brought to their logical solution, i.e. complete maintenance of the rate against the key currency. In fact, our rate was settled at 176.50 francs to the pound, which was the rate of the Congolese during the war. This, in turn, was the rate of the French franc in 1939, at which the Belgian franc was reduced and the Congolese franc later maintained by a series of economically unexplainable moves, during the tragic disorder of 1940. Thus the new rate was from the start a datum for economic and monetary policy: corresponding prices were allowed and goals for monetary policy were set accordingly.

It would go beyond the purpose of this statement to describe

the difficulties met in determining and maintaining prices set in accordance with a parity policy, in the midst of a very great and lasting scarcity of merchandise and of inflation renewed after the monetary reform, for reasons arising out of Belgium's participation in the war effort. The impossibility of securing adequate real wages without production of goods has also maintained serious pressure for higher nominal wages. It is nevertheless obvious today that the parity policy has provided a consistent line of thought in the midst of confusion and has been a very serious deterrent to competitive bidding up throughout the pricing system. In present conditions, effective demand is much above obtainable goods and services, and only wild disequilibria result on markets. Exports are as yet very limited. It is therefore only when relative abundance is reëstablished and black market prices disappear from the costs of production that we shall be able to determine how far we are off the mark and what remedy, if any, is necessary. We have reasonable grounds for believing that we have minimized the problem.

Implications for the International Monetary Fund

The above comments on the Belgian situation show that, even in the most troubled circumstances, purchasing power parities or disparities have a definite bearing on policy, either as actual facts or as future expectations: they play a definite rôle in assessing aims and means. The above should, of course, be true in other countries, in varying degrees. The only rule that can be laid down about this is that the requirements of parities are more actual and pressing for small economic units, because a number of external prices are given for them by neighboring key-currencies and internal conditions are directly affected; they are more a problem of long-term policy for larger economic units, where results of disparities are felt as much through variations in commercial currents as through direct reactions on pricing systems.

If parities are, as suggested, to play an important part in defining postwar monetary reforms and, later on, in assessing fundamental disequilibria in the international pricing system, it is to be deprecated that the plans for the International Monetary Fund should be framed entirely in terms of movements affecting the balances of payments. Of course, the plan does not define what are the fundamental disequilibria that are to be taken into account

in judging a country's economic position, and this allows us to introduce purchasing power disparities into the argument as a matter of policy without impinging on the articles of agreement. But it does mean a departure from the line of discussion followed while the system was being framed: thinking was concentrated on disequilibria which have expressed themselves in balances of payment rather than in internal conditions.

There would not be much harm in this, if definite disequilibria in balances of payment could be expected to arise simultaneously with purchasing power disparities which upset a country's internal conditions, and if excesses arose automatically when a country's prices are relatively too low and internal conditions are insufficiently stimulated. Then remedies might be correctly applied, whatever the line of approach. Obviously this is the case in Latin-American countries and, as a matter of fact, in all newly developed countries. In those countries, general economic crises have brought severe setbacks in export prices, very adverse terms of trade, restriction of capital imports, and great difficulties in meeting exchange requirements: balances of payments were regularly upset.

But this is not the usual picture in highly industrialized countries, where general crises have not provoked trouble in balances of payment, except when special financial difficulties were involved; more precisely, trouble in balances of payment have not originated in balances of commerce. The reason for this is clear: import prices have decreased more than export prices, the terms of trade have been more favorable to incoming flows of money, capital exports have decreased. The very weakness of exchanges of new countries has implied opposite conditions in the balances of the old countries. There is therefore no reason to expect that severe internal business conditions put a strain on balances of payment, except as a result of speculative movement (i.e. precisely the only type of movement which the Bretton Woods agreements purport to restrict, and which should therefore be theoretically excluded from the argument). Conditions in Belgium in 1933–1935 are a vivid example of what may be more generally expected in Europe, if relations should be regulated on the sole basis of balances of payment criteria. At that time, the heavy purchasing power disparities put such a strain on the Belgian economy that the country was on the verge of social upheavals.

Nevertheless, no trouble could be registered in the relation of exports to imports, central monetary reserves hardly diminished until "the game was up," and the final wave which swept away the gold bloc policy was definitely one of capital exports of a speculative character. In Europe, at least, violent internal disequilibria can be maintained if the problem of exchange rates and international relations is settled along the balance-of-payment approach. It is imperative to dig deeper and purchasing power disparities are the clue.

Those who would maintain the discussions entirely in terms of balance-of-payment difficulties might nevertheless argue that nothing should be done until the strain comes to the surface under the form of an outflow of foreign reserves. The Bretton Woods agreements contain the proviso that national economic policies must be accepted as data and that their experience should not be discussed. Any country could, therefore, embark upon a strenuous expansionist policy, the effect of which would ultimately be a disturbance in foreign transactions. Of course, this type of policy could generate an internal economic expansion in a large economic unit, with the result that its general expansion diminishes its competitive capacity on outside markets, until an outflow of funds makes the rest of the world participate in the expansion. Nevertheless, the United States shirked this remedy in 1933, when it would have been most helpful in restoring world economic conditions. Can we then recommend it to small economic units, especially when their reserves of foreign currency are already scanty? In such cases, purely internal credit expansion is incapable of restoring proper price-cost relations and profits in normal business: the multiplier is largely lost; inflationary conditions develop since the new money cannot go into normal channels, and financial insecurity develops. Would not such a policy amount to creating the symptoms necessary to make up the doctor's certificate, before curing the trouble? And if the problem arose the other way round, with prices too low in a small economic unit, would it really be sensible to insist on a contractionist policy before meeting the trouble?

Of course, consideration of purchasing power disparities does not mean that we hold a fast and easy rule, as the discussion of the 1944 case in Belgium has shown. At the present moment they should be considered in determining price and monetary policy,

with a view to lessening the extent of future depreciation by appropriate action, to the extent that factor costs have not yet been increased proportionately to other things. At a later stage, when relative abundance has come back and monetary reforms have been carried through, actual conditions should play a growing part, as against expectations; in any case, at that time, existing disparities will play an effective rôle in developing or hampering trade and in defining internal prices; they will require closer consideration. This does not mean, of course, that, at such a time, the appropriate solution would be, in many countries, a straightforward devaluation of the currency, proportionate to price disparities and to relative degrees of inflation. Modern technique has available many other methods, more appropriate in many respects because they do not entail many of the hardships and unnecessary redistributions of assets which are carried out blindly by the falling purchasing power of money. Only countries which have gone through the processes are fully cognizant of what they mean, and monetary authorities should not think lightly of the indirect results of devaluations which restore "monetary equilibrium" at the expense of rising prices for foreign populations. The plea is not for oversimplified solutions, but for facing squarely the facts at the appropriate moment, so as to establish within a short time conditions which approximate equilibrium sufficiently. The criterion for this is that further moves can be met without undue strain by changes in prices and that the existing discrepancies be "definitely" solved.

It is only by digging thus beneath the surface, into price-cost relations and the strains imposed on national conditions, that we can hope to dissolve within a reasonable time the fetters of international trade and payments. For nothing makes a country more hostile to the loosening of controls than the knowledge that its conditions are in fundamental disequilibrium and that its economy must be kept severed from outside influences. Only when price relations are approximately correct for the purpose does return to freedom create no immediate and grave disturbance. A due consideration of purchasing power parities should thus also be of paramount importance for the structural organization of world economic transactions.

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RECENT PUBLICATIONS

ÅCKERMAN, JOHAN. Ekonomisk Teori. Lund: C. W. K. Gleerup. 1944. pp. 286–660. [Vol. I, De Ekonomiska Kalkylerna; Vol. II, Kausalanalys av Det Ekonomiska Skeendet.]

ANDERSON, BENJAMIN M., et al. Financing American Prosperity. New York: The Twentieth Century Fund. 1945. pp. 508. $3.00. [Edited by Paul T. Homan and Fritz Machlup.]

ARGENTINA, MINISTERIO DEL INTERIOR. El Comercio Exterior Argentino en 1944 y 1943. Buenos Aires: The Ministerio. 1945. pp. 255.

ARNE, SIGRID. United Nations Primer. New York: Farrar & Rinehart, Inc. 1945. pp. 156. Trade $1.25, text 95 cents.

BACKMAN, JULES. Regulation of Prices in the Reconversion Period. New York: Amercan Enterprise Association. 1945. pp. 38. 50 cents. [Economic Survey Series, No. 413.]

BAKER, HELEN, AND DAHL, DOROTHY. Group Health Insurance and Sickness Benefit Plans in Collective Bargaining. Princeton, New Jersey: Industrial Relations Section, Princeton University. 1945. pp. 89. $1.50.

BALLAINE, WESLEY C. The Problem of Stable Exchange Rates. Eugene, Oregon: Bureau of Business Research, School of Business Administration, University of Oregon. 1945. pp. 54.

BANK FOR INTERNATIONAL SETTLEMENTS. United States, Regulations Relating to Foreign Funds Control. Basle, Switzerland: The Bank. 1945. pp. 30. 2.40 Swiss francs.

BANQUE DES REGLEMENTS INTERNATIONAUX. Reglementation du Commerce des Devises en Belgique. Basle, Switzerland: The Bank. 1945. pp. 40. 2.50 Swiss francs.

——. Reglementation du Commerce des Devises en France. Basle, Switzerland: The Bank. 1945. pp. 94. 7.50 Swiss francs.

BEMIS, GEORGE W. Coördinated Public Works for Metropolitan Los Angeles. Los Angeles: The Haynes Foundation. 1945. pp. 24. 10 cents. [Pamphlet Series, No. 10.]

BLAKEY, ROY G., AND BLAKEY, GLADYS C. Sales Taxes and other Excises. Chicago: Public Administration Service. 1945. pp. 216. $3.00 ($3.75 cloth).

BLOOMFIELD, ARTHUR I. The British Balance-of-Payments Problem. Princeton, New Jersey: International Finance Section, Princeton University. 1945. pp. 28. [Essays on International Finance, No. 6.]

BRITISH COUNCIL. Britain Today. Toronto: J. M. Bent & Sons, Ltd. 1945. pp. 44. 15 cents. [Number 114.]

BRYSON, GLADYS. Man and Society. Princeton, New Jersey: Princeton University Press. 1945. pp. 287. $3.00.

BURDEN, WILLIAM A. M. Recommendations on National Aviation Policy. Washington: The National Planning Association. 1945. pp. 11. 10 cents.

CALIFORNIA, DEPARTMENT OF INDUSTRIAL RELATIONS. Report for Governor's Council. San Francisco: The Department. 1945. pp. 20.

CALIFORNIA STATE RECONSTRUCTION AND REEMPLOYMENT COMMISSION. Matching Men and Jobs. Sacramento: The Commission. 1945. pp. 32. [Pamphlet No. 9.]

CANADA, DEPARTMENT OF LABOUR. Report for the Fiscal Year ending March 31, 1945. Ottawa: The Department. 1945. pp. 94. 25 cents.

Canada, Department of Labour, Legislation Branch, Labour Legislation in Canada. Ottawa: The Department. 1945. pp. 33.

Chang, Chi-Yun. The Natural Resources of China. New York: Sino-International Economic Research Center. 1945. pp. 71. [Sino-International Economic Pamphlets: No. 1.]

Chou, Shun-Hsin. The Capital Levy. Morningside, New York: The King's Crown Press. 1945. pp. 156. $2.25.

Committee on Postwar Tax Policy. A Tax Program for a Solvent America. New York: Ronald Press. 1945. pp. 278. $3.00.

Cornelius, R. T. The Job Credit Tax Plan. Minneapolis: The Cornelius Company. 1945. pp. 22.

Courtney, Philip. Full Employment — Wages and Democracy. New York: 1945. pp. 8. [Reprint from the Commercial and Financial Chronicle, Thursday, September 6, 1945.]

Director of the International Labour Office. Report to the International Labour Conference, Twenty-seventh Session. Montreal: International Labour Office. 1945. pp. 163. $1.00.

Edwards, Corwin D., et al. A Cartel Policy for the United Nations. Morningside Heights, New York: Columbia University Press. 1945. pp. 124. $1.25.

Fabricant, Solomon. Labor Savings in American Industry, 1899–1939. New York City: National Bureau of Economic Research. 1945. pp. 52. 50 cents. [Occasional Paper 23.]

Federal Council of Foreign Trade. Brazil's Foreign Trade, 1938–1943. Rio de Janeiro: Imprensa Nacional. 1945. pp. 115.

Finney, Katherine. History of Mutual Savings Banks in Northampton, Massachusetts. Morningside Heights, New York: King's Crown Press. 1945. pp. 225. $2.50.

Fisher, Irving. 100% Money. New Haven: The City Printing Company. 1945. pp. 257. $1.00.

Foster, William Trufant. Gyps and Swindles. New York: Public Affairs Committee, Inc. 1945. pp. 32. 10 cents. [Public Affairs Pamphlet No. 109.]

Groves, Harold M. Financing Government. New York: Henry Holt & Company. 1945. pp. 653. $4.00. [Revised Edition.]

Hazlitt, Henry. The Full Employment Bill: An Analysis. New York: American Enterprise Association. 1945. pp. 26. 50 cents. [National Economic Problems, No. 415.]

Hirschfeld, Gerhard. Social Security, Past, Present, Future? Washington, D. C: The American Taxpayers Association, Inc. 1945. pp. 116. $1.00.

Hirschman, Albert O. National Power and the Structure of Foreign Trade. Berkeley, California: University of California Press. 1945. pp. 170. $3.00.

Industrial Relations Section, California Institute of Technology. Catalog of Publications on Industrial Relations. Pasadena: The Institute. 1945. pp. 14.

Industrial Relations Section, Princeton University. Selected References on Government Mediation of Labor Disputes. Princeton: The University. 1945. pp. 4. 10 cents.

Jasny, Naum. The Wheats of Classical Antiquity. Baltimore: The Johns Hopkins Press. 1944. pp. 176. $1.75.

Knorr, K. E. World Rubber and its Regulation. Stanford University, California: Stanford University Press. 1945. pp. 265. $3.00.

Laidler, Harry W. British Labor's Rise to Power. New York: League for Industrial Democracy. 1945. pp. 39. 25 cents.

LEAGUE OF NATIONS. Statistical Year-Book of the League of Nations. Geneva: The League. 1945. pp. 315.

——. World Economic Survey: 1942–44. Princeton, New Jersey: Princeton University Press. 1945. pp. 292. $3.00.

MACHINERY AND ALLIED PRODUCTS INSTITUTE. The Full Employment Bill of 1945. Chicago: The Institute. 1945. pp. 21. [Statement before the Committee on Expenditures in the Executive Departments, House of Representatives.]

——. Capital Goods Industries and Postwar Taxation. Chicago: The Institute. 1945. pp. 22.

MAHONY, THOMAS H., AND POSTWAR WORLD COMMITTEE. The United Nations Charter. New York: The Paulist Press. 1945. pp. 24. 10 cents. [Pamphlet No. 36 of the Catholic Association for International Peace.]

McGREGOR, F. A., Commissioner, Combines Investigation Act. Canada and International Cartels. Ottawa: Minister of Labour. 1945. pp. 72. 25 cents. [An Inquiry into the Nature and Effects of International Cartels and other Trade Combinations.]

METZ, HAROLD W. Labor Policy of the Federal Government. Washington, D. C.: The Brookings Institution. 1945. pp. 284. $2.50.

MINTS, LLOYD W. History of Banking Theory. Chicago: University of Chicago Press. 1945. pp. 319. $3.50.

MOSSE, ROBERT. La France devant La Reconstruction Economique. New York: Brentano's. 1945. pp. 113. $1.00.

NATIONAL PLANNING ASSOCIATION. 4 for 4 — Questions for National Action. Washington, D. C.: The Association. 1945. pp. 35. 25 cents.

NEW YORK, DEPARTMENT OF LABOR. New York State Unemployment Insurance Law. Albany, New York: The Department. 1945. pp. 131. 30 cents.

NORTHRUP, HERBERT R. Will Negroes get Jobs Now? New York: Public Affairs Committee, Inc. 1945. pp. 30. 10 cents. [Public Affairs Pamphlet No. 110.]

RECK, FRANKLIN M. A Car Traveling People. Detroit: Automobile Manufacturers Association. 1945. pp. 48.

REIS, J. MARQUES DOS. Banco do Brasil, S. A., Extract of Report, 1944. Rio de Janeiro. The Bank. 1945. pp. 68.

SCHWARTZ, HARRY. Seasonal Farm Labor in the United States. Morningside Heights, New York: Columbia University Press. 1945. pp. 172. $2.25.

UNITED STATES BUREAU OF THE CENSUS. List of Publications Issued. Washington: The Bureau. October, 1945. pp. 3. [Vol. 1, Part 2, No. 10.]

UNITED STATES DEPARTMENT OF AGRICULTURE. Lectures on Administrative Regulation. Washington, D. C.: Graduate School, United States Department of Agriculture. 1945. pp. 76. 50 cents.

UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS. County Finances, 1943. Washington: The Department. 1945. pp. 95. 30 cents.

——. Governmental Finances in the United States, 1942. Washington, D. C.: The Department. 1945. pp. 144. 45 cents.

——. City Finances, 1943. Washington, D. C.: The Department. 1945. pp. 224. 60 cents.

UNITED STATES DEPARTMENT OF LABOR. The Outlook for Women in Occupations in the Medical Services: Dental Hygienists. Washington: U. S. Government Printing Office. 1945. pp. 17. [Bulletin 203, No. 10.]

——. State Labor Laws for Women with Wartime Modifications. Washington: United States Government Printing Office. 1945. pp. 43. [Bulletin of the Women's Bureau, No. 202–II.]

UNITED STATES SECURITIES AND EXCHANGE COMMISSION. Accounting Series. Philadelphia: The Commission. 1945. Release Number: 53.

——. Investment Company Act of 1940. Philadelphia: The Commission 1945. Release Numbers: 806–834.

——. Official Summary of Security Transactions and Holdings. Philadelphia: The Commission. 1945. pp. 60. [Vol. 11, No. 9; Vol. 11, No. 10; Vol. 11, No. 11.]

——. Public Utility Holding Company Act of 1935. Philadelphia: The Commission. 1945. Release Number: 6200.

——. Securities Act of 1933. Philadelphia: The Commission. 1945. Release Numbers: 3099, 3100.

——. Securities Exchange Act of 1934. Philadelphia: The Commission. 1945. Release Numbers: 3738–3763.

——. Statistical Bulletin. Philadelphia: The Commission. 1945. [Vol. 4, No. 9; Vol. 4, No. 10.]

——. Statistical Series. Philadelphia: The Commission. 1945. Release Numbers: 754, 755.

——. Survey Series. Philadelphia: The Commission. 1945. Release Number: 88.

Waters, L. L. Postwar Employment in Kansas. Lawrence, Kansas: University of Kansas. 1945. pp. 30. [Industrial Research Series, No. 5.]

The Woman's Foundation. Reorganization of Community Services. New York City: The Foundation. 1945. pp. 32.

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REPARATION LABOR — A PRELIMINARY ANALYSIS

To impose upon the defeated enemy the obligation to work for the victor is not precisely new. For centuries slavery has been the fate of prisoners of war. The old Sumerian ideograph for slave means "man of foreign land."[1] In more recent periods, however, attempts to humanize warfare by international agreement succeeded in stamping out such "barbarous," "un-Christian" practices.[2] In the same period international public opinion and compacts outlawed all forms of compulsory work or service "exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily"[3] (with certain specified exceptions). When the Egyptian Government in 1863 provided forced labor for the construction of the Suez canal, public opinion in the rest of the world, aroused by Great Britain (whose action might have been partly directed against the French interests in this undertaking), was strong enough to force the Sultan to stop this practice. When the problem of compulsory German labor as a

1. W. L. Westermann, "Slavery in Ancient Times," Encyclopedia of Social Sciences, Vol. 14, p. 74*b*.

2. Hague Convention of 1899 and Geneva Convention of 1929.

3. Forced Labor Convention 1930, Art. 2, International Labor Code 1939, Art. 766. See also Anti-Slavery Convention of September 26, 1926, Art. 5.

means of reparation came up after World War I, the Second Subcommittee on Reparation (of the Commission on the Reparation of Damage) decided against it, because of the "great danger that public opinion might at no very distant date come to regard it as indistinguishable from forced labor and refuse to tolerate its continuance."[4]

There was no great opposition, however, when Prof. Eugene Varga, the head of the Moscow Institute of World Economics and World Politics, in an article in War and the Working Class, October 15, 1943,[5] advocated the use of German labor battalions for the reconstruction of the USSR. Whether world public opinion had changed, whether it was governed by the spirit of retaliation or by a sense of primitive justice, is for the historian to decide. The Russian proposal found imitators. Demands for forced German labor were voiced not only by the countries of southeastern Europe but also by France, Belgium and the Netherlands. Chinese and Korean spokesmen wanted the scheme to be applied to a defeated Japan.

According to the New York Times of December 1, 1943, Premier Stalin shared the view that Germany should be required to send labor battalions to the Soviet Union to help rebuild that country. President Roosevelt took with him to the Quebec Conference of September, 1944, a "program to prevent Germany from starting World War III," prepared by Mr. Henry Morgenthau, Jr., then Secretary of the Treasury. This plan also provided for reparations "by forced German labor outside Germany."[6] It is reasonable, therefore, to assume that the question of reparation labor was discussed at the Quebec Conference, although the official communiqué of that conference did not contain any reference to this subject.

At the Crimean Conference of February 11, 1945, the American, British and Soviet governments established the principle of Germany's obligation to make compensation *in kind* for the damage caused to the Allied Nations in this war. This did not exclude the

4. Philip M. Burnett, Reparation at the Paris Peace Conference (New York, 1940), Vol. II, pp. 758–759.

5. Reprinted in the Soviet Embassy's Information Bulletin, Washington, November 30, 1943; New York Times, September 2 and December 1, 1943; February 2 and 5, 1945.

6. Henry Morgenthau, Jr.. "Germany is our Problem," p. 2, No. 5 (*d*).

use of reparation labor.[7] It only excluded monetary reparations, which all statesmen, with the famous "transfer problem" in mind, were eager to avoid. If reparation in kind consists in the physical transfer of goods, it could also consist in the transfer of services and the factors of production, particularly labor, which otherwise would be embodied in these goods. Since, furthermore, labor in Germany cannot de-mine French roads, build Russian bridges, and mine Belgian coal, labor reparations would necessarily involve the use of German workers in foreign countries. The Yalta Conference also provided for a reparation commission, but what this commission decided in respect to this problem has not yet been divulged. The directive issued by the Government in April, 1945, to General Eisenhower, then Commander-in-Chief of the United States Forces of Occupation, concerning the military government of Germany also failed to include any reference to reparation labor.[8]

The declaration of the Tri-partite Conference in Berlin, July 17–August 2, 1945, the so-called "Potsdam Declaration," deals in Part Four with the question of reparations, but it, too, makes no reference to the use of forced German labor outside the German frontier. This official silence appears, at first glance, to justify the interpretation that the Allied Powers had finally decided against the use of reparation labor, a decision which would be plausible in the light of the many economic, sociological, political and administrative problems, not to mention the grave issues of international law (and the world's ethical code), which the large-scale use of compulsory labor raises.

The official silence does not, however, mean the abandoning of reparation labor.[9] As a matter of fact, the Allied Powers are using forced enemy labor right now. Millions of prisoners of war are working in Soviet Russia or in territories occupied by the Soviet Union since their capture or surrender. Nor is the use of war prisoners restricted to the Russians. Press releases have estab-

7. One participant, James F. Byrnes (New York Herald Tribune, February 14, 1945), later confirmed by President Roosevelt (New York Times, March 3, 1945), stated merely that "the use of German manpower in the rebuilding process was discussed by the Big Three, perhaps even to the eventual use in Europe of German prisoners of war."

8. Released by the State Department, October 17, 1945; New York Times, October 18, 1945.

9. According to the New York Herald-Tribune of August 8, 1945, a member of the American delegation in Potsdam has disclosed that the Big Three sanctioned the use of German labor by the Russians.

lished the fact that Germans who were made prisoners of war by the Americans have been turned over by the American military authorities to the French and Belgian governments for work in the fields, factories, and mines. The British Minister of Agriculture and Fisheries, Tom Williams, disclosed to the House of Commons on April 8, 1946 that his government had 111,000 German and 35,000 Italian prisoners of war working and intended to increase the total to at least 200,000 before the end of 1946.[1]

At first sight the utilization of prisoners of war appears to be a quite different matter from that of reparation labor. The most significant difference, apparently, is the transitional character of the prisoner-of-war status. Because it was always expected that the prisoners of war would be returned to their homes shortly after the conclusion of hostilities, the civilized world has been satisfied with the meager protection which the conventions of the Hague of 1899 and Geneva of 1929 provide.[2] Therefore no safeguards have been set up for mitigating the effects which the prolonged absence of large numbers of males of the most productive and reproductive age-groups would have for the home country, and no attempts have been made to guarantee the operation of the home economy by limiting the number of prisoners of war retained to a specified ratio of the working population. (The determination of this ratio could give due consideration to the volume of production that the victorious powers are willing to concede to the defeated enemy.) No provision, of course, could be made to equalize the burden upon all trades and occupations or to segregate democratic from fascist elements by changing the composition of this supposedly temporary labor supply.[3]

If the experiences of World War I may serve as an example, however, these prisoners of war can expect no change in their status for some time. While Article 10 of the Armistice Agreement

1. New York Times, April 9, 1946. In the same session of the House of Commons Mr. M. Philips Price compared the relative labor value of German and Italian prisoners of war as one German to 3.71 Italians.

2. According to these international agreements, such prisoners may be employed under reasonable conditions in work having no direct military connection. Their food, quarters and clothing must be of a standard equal to that of the troops of the capturing government. Neutral observers have the right to inspect the camps and the living and working conditions of the prisoners. Not all of the allied powers now holding prisoners of war have signed these conventions.

3. See below, p. 336.

of 1918 required the defeated nations to release the prisoners of the Allied and Associated Powers immediately, the latter powers retained prisoners of the Central Powers until the peace treaties were signed.[4] The Allies in this war have already made clear that the signing of a peace treaty with Germany could only take place after a responsible government had been constituted and formally recognized. If, as some observers think, such a government can be formed only after the reëducation of Germany has been completed, most prisoners of war now working may have a slim chance of seeing their country, home and family again. Meanwhile, it would appear safer to treat the forced labor of these prisoners of war not merely as a short-lived intermezzo, but as part of the larger problem of reparation labor.

Another important apparent difference between the utilization of prisoners of war and reparation labor battalions lies in the fact that the number and quality of prisoners of war is not only fixed by capture and surrender, but is also constantly decreasing through death, incapacity or other causes,[5] while the number and quality of reparation labor could be constantly maintained at the same level through appropriate recruitment and exchange. This distinction is also fallacious. If the quality of prisoners of war should deteriorate, the present workers could be replaced by other captives who had not yet been drafted into labor service. The American military authorities replaced German prisoners of war turned over to the French when they became unable to perform the work, and replaced a number of German prisoners of war unable to perform work in the Belgian mines. Although it is not contended that such a policy has been actually followed, an occupying power could, if it so desired, refill the ranks of this labor supply by new imprisonment of "fascists," "politically undesirables," "trouble makers," etc.[6] In case of a protracted labor shortage, it

4. E. G. Trimble, "Prisoners of War," Encyclopedia of Social Sciences, Vol. 12, p. 421*b*.

5. The French, who are reported to have asked for 1,750,000 German prisoners of war for reconstruction (Pour la Victoire, August 11, 1945), had to be satisfied with a considerably smaller number, when a part of their press disclosed the disastrous working and living conditions and the high rate of attrition of the prisoners of war. An American investigation verified these conditions and resulted in a decisive lowering of the quota which the United States authorities released to the French.

6. It is not quite clear yet whether the original plan to use the Nuremberg tribunal conviction of certain Nazi organizations as a legal basis for the use of

would even be possible to borrow one of the Nazi tricks and to offer the exchange of prisoners of war for volunteering workers of the occupied zones. Indeed, the temptation for the victors to apply such measures would become greater, the more the period between surrender and the signing of the peace treaty is prolonged and the number of prisoners of war and their ability to perform work diminishes.

In his searching article, "What Should Germany Pay," William Diebold, Jr., points out that reconstruction is essentially a temporary undertaking.[7] The conclusion would therefore seem warranted that this temporary labor demand could best be satisfied by the temporary expedient of putting prisoners of war to work. The enormous destruction wrought by the war will certainly absorb all the labor which can be exacted from the available prisoners of war before they are finally released. To the extent that the need for labor in the devastated countries exceeds this supply, it increases the pressure for reparation labor proper. In the absence of reliable data on demand, supply or the time factor, we can only surmise that the demand for reparation labor will be revived as soon as the prisoners of war have been returned. Even if we accept an optimistic view and estimate that the task of reconstruction will take only ten years, as after World War I, we shall find it difficult to minimize the problem by considering it merely as a self-liquidating, short-term disturbance.

It assumes a graver aspect, however, if it is considered in connection with the policies which the victorious powers have evolved in respect to the defeated countries. In the Potsdam Declaration the Allied Powers have evidently agreed upon the following policies:

(1) to (partially) de-industrialize Germany and, if necessary, thereby lower her standard of living to a plane not exceeding the

Nazis as labor reparations or as reconstruction battalions in lands devastated by the Nazis has been abandoned. The plan to have denazification boards, manned by Germans, convict Nazis for militaristic or criminal party activities and sentence them to forced labor in foreign lands was proposed by the German Minister-Presidents in the American zone to Lt. Gen. Lucius D. Clay, deputy military governor, with the idea in mind to exchange these Nazis for war prisoners still held abroad by the allies. If applied to all four zones of occupation, it would affect an estimated number of two million active Nazis. New York Times, March 5 and April 2, 1946.

7. Jacob Viner and others, The United States in a Multi-National Economy, Council on Foreign Relations, 1945, p. 56.

average of the standards of living of Continental Europe exclusive of Russia;[8]

(2) to decrease her territory;

(3) to subject her to an occupation in four zones;

(4) to resettle in these occupied zones several million Germans evicted by the surrounding countries.

The consequences of the partial de-industrialization would be the turning of Germany into a predominantly agricultural state. Regardless of the extent of mechanization, agriculture uses less labor per unit of output than industry. Even if the agricultural production of Germany could be considerably increased beyond its 1939 level, this increased production could not absorb all the displaced industrial workers. The proposed territorial changes decrease further the supply of arable land,[9] and consequently increase the population pressure. The influx of several millions of Germans from Czechoslovakia, Hungary, Poland and other countries adds to the number of unemployed. The separation of Germany into four zones of occupation is bound to decrease inter-

8. According to the Byrnes statement of December 11, 1945 (New York Times, December 12, 1945), the Potsdam declaration does not refer only to the elimination of war industries, but also to drastic reductions in the capacities of the metallurgical, machinery and chemical industries, these designations to be applied broadly (No. 1a). Although the statement interprets the standard-of-living provision of the Berlin declaration as representing merely the (lower) limit up to which reparation claims can be pressed, it also holds it likely that the German standard of living will "for some time" fall short of the European average (No. 5). While interpreting "the standard of living criterion to refer to the year immediately following the two-year period of reparation removals" only, Secretary Byrnes orders, on the other hand, the United States occupying authorities to "ensure that . . . Germany shall not reconstitute a peace-time standard of living at an earlier date than the countries ravaged by German arms" (No. 2c).

According to the statement, "primary emphasis shall be given to the development of agricultural and peaceful domestic industries," and "maximum possible provisions [should] be made for exports from sources other than the metal, machinery and chemical industries." While this view would ultimately restore a certain degree of industrial employment, it must be remembered that it represents merely the interpretation of the American State Department, binding only for the United States zone of occupation. As Heinz Eulau (New Republic, December 31, 1945, p. 891) points out, "the calculations of the State Department are largely theoretical, as far as eastern Germany is concerned," where nearly all the machinery has already been removed by the Russians.

9. Against these facts, the splitting up of estates over 50 hectares, a shift from animal to vegetable products, and an increase of farm land at the expense of forest areas (Nehemiah Robinson, "Problems of European Reconstruction," this JOURNAL, November, 1945, p. 50) appear hardly adequate to relieve the industrial unemployment problem substantially.

regional trade, and may very well, therefore, lead to additional unemployment. A small part of the unemployed industrial workers could eventually shift to other occupations, and in their case unemployment might be only of short duration. Another part could find employment in domestic reconstruction, were it not hampered by the de-industrialization,[1] the occupational and population shifting process, and the division of the country in four zones. An overwhelmingly great number of German workers are, consequently, facing long-term unemployment.

This problem obviously cannot be solved until the balance between population and resources is restored, a process which will take time. If nothing is done to relieve this situation, unrest is certain to arise and world security will be endangered. A Germany suffering from such large-scale[2] unemployment without any hope

1. The Byrnes statement expects German reconstruction to be retarded by reparation removals and their transportation (No. 1*b;* 9). In regard to the allocating of resources, the statement directs the occupying authorities to make allowances for reconstruction. In this context it assumes a time span of 5 years for the restoration of rail and road transport, and of 20 years for the reconstruction of buildings.

2. The various estimates of the number of unemployed differ greatly. Dorothy Thompson (American Mercury, June, 1943), on the assumption of 75 per cent of Germany's working population being directly tied up with industry, speaks of 20 millions. Nehemiah Robinson (op. cit., p. 47) arrives at 1,937,766, 6 per cent of the working population, which according to him numbered 32,296,100 in 1933. He adds to the number of displaced workers in the metal-manufacturing, engineering and chemical industries those in other branches of industry, in domestic and export trade and in transportation, which are liable to be affected by a curtailed output in the primarily affected industries. He deducts the workers who are employed in small business and handicraft firms, which, because they offer no war-threat, may remain intact. His estimate is based upon the census of 1925 and is, therefore, open to criticism for this reason. By accepting the 1925 figures he fails to take into account that in the last twenty years the relative share of industrial employment, and within this category employment in the metal and chemical industry, has greatly increased at the expense of other pursuits. No attention is paid to the fact that twelve years of Nazi regime have all but destroyed the handicrafts and the artisan. Moreover, even if it were possible and desirable to turn the wheels of economic development all the way back to or beyond the 1925 level of concentration and division between large-scale manufacturing and handicrafts, many of the skills which have been lost would first have to be revived. Our own experiences in this war taught us that such a policy takes a great deal of time, and hardly lends itself to speedy relief for great numbers of unemployed. Were we to take Morgenthau's figures for 1939 (op. cit., pp. 211–212) as a base, we would find that the number of workers in the affected industries (4,119,500) represented in that year approximately 25 per cent of the total number employed in industry (16,980,000). On the basis of 1933 figures Mr. Morgenthau aims to stabilize the industrial employment at a level of

of early relief would also create a danger for the economic position of all other countries. The chronic depression of seventy or eighty millions of people in the heart of Europe might easily spread to all those nations who will find it necessary to maintain international trade relations with this country.[3] Since emigration of these unemployed workers to other countries will hardly be an acceptable solution, and since their employment within Germany is an impossibility, their utilization as forced workers offers itself as a possible solution which the victorious powers might feel obliged to accept in the interest of their own military and economic security;[4] in such an event, reparation labor looms as a long-term problem. In any case, it richly deserves our attention.

II

Under what conditions can large masses of foreign forced labor be absorbed by the economy of a particular area? If the supply of workers in a country has been severely curtailed by war, and if labor-saving capital equipment has been largely destroyed or used up without being replaced, the remaining labor force might be inadequate to satisfy the normal prewar demand. Such a dislocation of the economic system might, furthermore, destroy the possibility for the most economic utilization of labor by the greatest possible amount of specialization in plants of optimum size. Moreover, the need for labor in the immediate postwar period is certain to far exceed the prewar requirements in magnitude and inelasticity. The greater the devastation of villages and cities, of agriculture and industry, of transportation and of public utilities,[5]

6,660,000 (p. 71). This would represent a reduction from the 1933 level of 13,235,000 of not less than 6,575,000. Before stabilization is achieved, an even greater amount of unemployment may be expected. See also New York Times, March 26, 1946.

3. For a fuller discussion of the international transmission of industrial fluctuations see Haberler, "Prosperity and Depression," Ch. 11; Lauchlin Currie, "Domestic Stability and the Mechanism of Trade Adjustment to International Capital Movements," in Explorations in Economics, New York, 1936.

4. "The existence of millions of destitute and probably desperate families would be an offense both to humanity and to world security. The only practical solution is to put most of them to work on the land and in labor battalions outside Germany repairing the damage they have done." Henry Morgenthau, Jr.: "Germany is our Problem," p. 70.

5. For a comprehensive survey of the scanty data available up to now see *Nehemiah Robinson: "Problems of European Reconstruction," loc. cit., pp. 1–15, especially Table I, p. 8.*

the more urgent is the need for an early rehabilitation of the national economic system.

To cope with emergencies which overtaxed the ability of their normal economic organizations, governments have imposed forced labor upon their own citizens, even in peace time. Floods, hurricanes, forest fires, blizzards, earthquakes, and wars have been dealt with in this way. The walls of Athens (478 A.D.) and of Argos (417 A.D.) were the work of the Todt organization of that time. The insufficient supply of working men caused by the Black Plague constituted a national calamity in England and forced her to prescribe an almost general work obligation in the Statute of Laborers. In modern times North American settlers were compelled to build roads, and Dutch farmers formed compulsory coöperatives to construct and maintain the dykes which protected them from the onslaught of the sea. Section 11 of the Soviet Labor Code of 1922 provides for the calling up of all citizens of the RSFSR (with certain exceptions) for compulsory labor service in cases of emergency due to the elements or to the lack of workers to carry out important state work.[6] Rapid economic expansion necessitated by a belated industrial revolution is evidently considered "important state work." The gigantic White-Sea-Baltic Canal, the construction necessary to house evacuated industrial plants, the opening up of the Arctic and White Sea ports in 1941, were performed by eight to twenty million Russian forced laborers.[7] To hasten the completion of the "West Wall" Marshal Goering, in his capacity as Commissioner for the Four-Year Plan, introduced in June, 1938, a compulsory labor organization which required every German citizen (later all persons on German territory, regardless of nationality), without regard to professional or social status, to accept any work or to undergo any training to which he was assigned by the authorities.[8] Four hundred thousand German workers were ordered to leave their jobs and assigned to undertakings connected with this project.

Such an unprecedented need is particularly difficult to satisfy if the labor force is relatively immobile. The immobility may refer

6. This provision supplements the general duty to work expressed in Art. 12 of the Soviet Constitution of 1936.

7. David J. Dallin, The Real Soviet Russia, New Haven, 1944, pp. 188, 198, 201.

8. Order of June 22, 1938, and of February 13, 1939. International Labor Review, June 1940, pp. 590–592; December 1941, pp. 633–637.

to space (change of working place), time (speed of adjustment), and occupation, but also to the wage structure. If offered a substantially lower wage than the one prevailing in a given locality at a specified time for a particular occupation, the worker may refuse to accept, preferring to rely upon social insurance, savings, or even upon charity. "The price of a material factor must sink to zero before it ceases to be used, but workers, especially when they have strong trade unions and are supported directly or indirectly by State intervention, will withhold their labour, if wages fall below a certain limit." [9]

Whenever a rigid, stratified class structure, be it based upon a theocratic hierarchy[1] or upon state-tolerated or -promoted self-organization of the worker, stood in the way of an excess of labor demand over supply, the State has not hesitated to sweep these social institutions away.[2] Acquired "industrial rights" had to give way to emergencies, just as the "inalienable" civil rights did. Since the civic obligation of rendering military service has always been accepted as overriding the bill of rights, the State attempted (*a*) to extend its "imperium" to labor services, i.e., to establish the duty to render them as a civic obligation coexisting with the military requirements, and (*b*) to cloak compulsory labor in military terms, thereby paring down any resistance. The Romans considered their duty to construct defense walls, public roads, and communications, together with the military duty, as an obligation of citizenship, the *munus publicum*.[3] Bulgaria, defeated in World War I, required by law of June, 1920, young men to work for eight

9. Haberler, The Theory of International Trade, p. 195.

1. Herodotus, Bk. ii, Ch. 24, reports that Cheops "closed the temples and forbade the Egyptians to offer sacrifice, compelling them instead to labour, one and all, in his service . . . 100,000 men labored constantly and were relieved every three months by a fresh lot. It took ten years of oppression of the people to make the causeway for the conveyance of the stones . . . the pyramid itself was twenty years in building."

2. The abolition of the free German labor movement on May 1, 1933, and the incorporation of Soviet labor unions in the state represent only the most extreme cases of such a policy. During the war, American labor unions voluntarily renounced their right to strike, accepted wage controls and the suspension of certain protective labor laws. British labor in a far greater degree than the American workers was made subject to National Service Legislation which shifted workers from place to place, from occupation to occupation, or froze them in their jobs.

3. Mommsen: "Roemisches Staats Recht," Leipsig 1887, p. 225. Mommsen traces the term "munus" to the Latin term describing the act of erecting a town wall.

months and young women for four (only thirty per cent of any age class being liable at any given time).[4] The natives of Madagascar (French West Africa) before 1926 were divided into two contingents: one obliged to perform three years of military service; the other liable to draft service in a manual labor army. The idea of equalization of the duties of citizenship prevailed also in the American and British provisions for the conscription of conscientious objectors to undertake work in the interest of national welfare. Russian and German labor "mobilization" methods and the terms applied to these "soldiers of work" yield plentiful examples of the existing and intentionally emphasized parallels between modern measures of labor compulsion and military conscription.

The capacity of an economic system to absorb compulsory labor is dependent upon the prevailing technique of production and the state of the arts. It is an accepted fact that compulsion does not provide a sufficient incentive for the worker, if we omit the comparatively rare cases where the labor service obviously benefits the affected individual, as when the worker is building the defense of his own home against the common enemy, or against nature, when he depends upon the road he is forced to build, or when he will become the owner of the arable land recovered from the sea. Abstract patriotism is a far weaker incentive, especially for long-time efforts, if the benefits appear to affect the worker only indirectly. The Romans soon distinguished between *munus personae*, the obligation which a citizen had to fulfill in person, such as military service, and *munus patrimonii*, the obligation resting on the citizen's wealth. The latter type soon became redeemable in the services of substitutes and finally in money. The medieval corvée finally became only a system of levying taxes. The lack of incentive has to be made up by compulsion. The whip of the Egyptian guard, like the sub-machine gun of his Nazi successor, speeded up the work of the labor gang.

Brute force, however, can enforce only the performance of the lowest level of menial tasks. Men can be forced to dig a trench, but skill is elusive and does not yield to compulsion. The same Greeks who knew how to use state slaves for forced defense work

4. The law had to be amended in 1921 because of protests from the Entente powers that it violated the military provisions of the Treaty of Neuilly. In 1930 more than 16,000 young men were enrolled in the Bulgarian labor army. R. L. Buell: "Forced Labor" in Encyclopedia of Social Sciences, Vol. 6, p. 341.

for their cities, resorted to well-paid independent contractors (free men or slaves), when they needed stone masons or sculptors to make and adorn their temples and sanctuaries.[5] The same Russians who are said to have used millions of prisoners of war for forced labor, are reported to have offered considerable monetary inducements to German atom scientists.

If force yields only unskilled work, it follows that forced labor can be used economically only where the state of the arts allows the utilization of such labor. Ancient Egypt could utilize large masses of unskilled labor in the construction and maintenance of her pyramids and her irrigation system or for work in her mines.[6] In the later Middle Ages, however, when the economic organization undertook relatively few tasks for which large masses of unskilled labor could be used, the substitution of money payments for compulsory labor appeared more economical. Only road work (corvée) and the maintenance of the communication system (angaria) could be entrusted to compulsory labor. Not until the development of the twentieth century's mass production in industry and agriculture does the situation change. Now for the first time in hundred of years, the machine, with its "built in skill," again permits the use of large forces of unskilled labor.[7] Nazi Germany could take approximately six and one-half million foreign workers[8] and approximately two and one-half million prisoners of war[9] from all walks of life — from the farms, the factories, the store counters, the pulpits — and put them to work with little or no training.

To summarize: the greater and the more urgent the need, the smaller the supply, the less mobile the free domestic labor force, and the more mechanized the production organization is, the easier is the absorption of foreign forced labor likely to be.

5. Alfred E. Zimmern, The Greek Commonwealth, Oxford, 1911, p. 255, 271.

6. Rostovtzeff, A History of the Ancient World, Oxford, 1926, p. 147: L. Thorndike, A Short History of Civilization, p. 148, 189.

7. Moreover, the substitution of labor by machinery is not completely reversible; at least, not without sacrificing not only the quantity but also the quality (and cost) of the products. An economy which attempted to return to the handicraft stage would first have to revive the artisan, and even then have to forego a considerable number of goods and services which the machine alone made available.

8. Eugene Kulischer, "The Displacement of Population in Europe," Series O, No. 8. International Labor Office, Montreal, 1943, p. 160.

9. "The Mobilization of Foreign Labor by Germany," International Labor Review, October, 1944, pp. 469–480.

III

What would be the probable effects of the utilization of a significant amount of forced foreign labor upon the economy of the country making use of this device? The effects in a free enterprise economy will be different from those to be expected in a directed economy, but in both cases employment, the wage structure, incomes, the monetary equilibrium, and the general economic welfare will be affected. Considering first the case of a free market economy, it seems that the effect of the introduction of a great number of unskilled workers upon the employment of the domestic workers will depend upon the pre-existent employment level. If a condition of full- or over-employment prevailed, and if the need for labor remained largely unsatisfied, no great difficulties would arise. If there was permanent or transitory unemployment, or if such unemployment was expected, the (presumably organized) workers would strenuously object to an addition to the labor supply.[1] Only if the jobs are unattractive to the domestic worker will there be no objection. This might be the case with purely transitional jobs, if the domestic workers are in a position to refuse them and follow their preference for more permanent employment, or with jobs in faraway islands and areas of unattractive climatic or working conditions. In general, free labor will not object to the utilization of foreign workers on economic grounds if foreign forced labor does not enter into competition with it. Since, however, a great part of the domestic labor belongs to the same unskilled group as the foreign forced labor supply, such non-competing labor will be found in the long run only in tropical colonies with their sharp division between white and native labor. There, genuine or alleged climatic reasons, custom, and political considerations leave all tasks which can be performed by unskilled labor to the natives or coolies, and reserve all administrative tasks to the dominant white group. Thus we find, even today, the remnants of a permanent, large-scale use of forced labor by the western, free market economic systems.[2]

The opposition of labor to the use of forced labor (independ-

1. In spite of the fact that the U. S. Dept. of War has indicated that German and Italian prisoners of war in this country will not be given any work, if this will deprive any American worker of a job, Labor has pressed for the speedy return of the one-quarter million prisoners of war.

2. Wilfrid Benson, Social Policy in Dependent Territories, International Labor Organization, Montreal, 1944; see also R. L. Buell, loc. cit.

ently of humanitarian, political, or moral considerations) is based particularly upon the fear of the possible effect of such use upon the wage structure. Forced unskilled labor would increase the labor supply and therefore lower the wage rates of the unskilled worker. Since the compulsion to work leaves the affected worker no choice between idleness and work, he has no reservation price. Compulsory labor is "willing" to work at any price fixed by the government; its supply, taken by itself, is perfectly elastic. Forced labor will, therefore, not only increase the magnitude of the total supply, but also its elasticity. Since the total wage structure of a free enterprise economy is built upon the wage rate for unskilled workers, any lowering of this wage rate will also unfavorably affect the wages of the more skilled workers. If, before the introduction of forced labor, there had been a definite labor shortage, compulsory labor would prevent, decrease, or at least retard any increase in wages which otherwise would have been forthcoming. If demand and supply were in equilibrium before, the additional supply would tend to depress the wage rate. In case of underemployment, the increased supply would add a further unfavorable factor. The *extent* of these effects would be further influenced by the relative elasticities and sizes of the domestic supply and demand for labor, as well as by the wage rate paid to the forced laborers. The *effect itself*, however, is independent of the wage rate paid to forced labor. Even if it is assumed that forced labor is paid at the "prevailing wage rate," the wage rate which prevails will be lower than the one which would have prevailed had compulsory labor not been introduced.[3]

Payment of the prevailing wage rate is, however, hardly justified. Forced labor is not only unskilled, but also highly inefficient.[4] The smaller productivity, together with the cost of administration and supervision, would justify a wage rate smaller than the prevailing one, but it would be an administrative task of the first

3. The monetary and fiscal devices which might serve to neutralize or mitigate this tendency are disregarded here, since the probability of their successful use seems rather remote.

4. William Diebold, Jr., op. cit., p. 56, quotes "The Economist," May 27, 1944, pp. 704–705, and "New Statesman and Nation," November 13, 1943, pp. 311–312 for the fact that forced labor is "wasteful and unsatisfactory." The Romans had so little confidence in the efficiency of forced labor that they did not even trust the construction and maintenance of their vitally important imperial road and postal system to forced labor. They had them built and maintained by the military forces.

order to ascertain the "correct wage rate" which should be offered to forced labor.[5] The possibility of fixing this wage rate at a disproportionately low level, would always exist. Were forced labor offered in the labor market at extremely low rates, its detrimental effects upon the domestic wage structure would be multiplied. Tenney Frank relates how the wide use of slave labor in Rome tended to lower the wage of the free workers towards the cost of supporting the slave.[6] Organized labor which has fought a constant and successful fight against convict labor will not accept the lowering of its wage standard by politically created convict labor.

Some significant conclusions can also be drawn from an equally hurried and sketchy excursion into general equilibrium analysis. What is the effect of the introduction of forced labor on the flow of incomes? Except in the rare case where a high employment level coupled with a largely unsatisfied demand for labor and payment of a "prevailing wage rate" to forced labor results merely in preventing a wage increase, the wage rates tend to fall. This fall in wages will affect the total payroll according to the elasticity of the demand for labor. "In those occupations in which the demand for labor is highly elastic, a fall in wages, by bringing a large increase in employment, will raise incomes in that group, raise the expenditures of that group and therefore raise the incomes of other groups and increase employment elsewhere in the system. If wages are lowered, on the other hand, in occupations where the demand for labor is inelastic, incomes in that occupation will decline and unemployment is likely to increase elsewhere in the system. This increase in secondary unemployment may more than compensate for the fall in primary unemployment in the occupation concerned." The lesser the degree of physical reconstruction, the sooner reconversion is completed, the more the pent-up demand for goods is satisfied, in short, the more the peacetime economy is restored, the more inelastic the demand for labor tends to become. Consequently, the smaller will become the payroll of the domestic labor force.

5. Frequent adjustments, designed to approximate the results of a free market determination of an equilibrium rate would have to be made for each labor market, with due regard to the employment level. To the extent that governmental wage determination replaces the market, the "free enterprise economy" shades into a planned economy.

6. The Cambridge Ancient History, Vol. I, pp. 187–189.

7. K. E. Boulding, In Defense of Monopoly, this Journal, August, 1945, p. 533.

The decreased purchasing power of the domestic worker will not be offset either by the money incomes of the forced foreign workers, or (by virtue of the higher propensity to save) by any increased profits of the public or private employers of such labor. A part of the money incomes going to the compulsory workers is likely to leave the country in the form of allowances for their dependents. These sums reduce the amount of spendable incomes in the employing country and represent leakages reducing the multiplier. Furthermore, the greater part of the wage payments to forced labor is not made available for their spending, but credited to the reparation account of the defeated country. These funds become, then, part of the public revenue of the receiving government. This procedure, however, is also likely to decrease the flow of incomes, to the extent that the government's propensity to spend is lower than that of the workers, who otherwise would have free disposition of these funds. The decreased stream of money incomes — which might be coupled with unchanged or even increased real incomes — produces deflationary effects. From this point of view, it might be desirable to curtail a postwar boom, but such curtailment will hardly be welcomed by the workers or the business men. In any other phase of the business cycle this deflationary tendency would, however, be generally condemned. Kenyesians will conclude that the reduced purchasing power of large masses of the population with a high propensity to consume cannot fail to affect the profit expectations of the entrepreneur, the marginal efficiency of capital, the rate of new investment and replacement, and the general level of employment in an unfavorable direction. The reduced employment must further depress wages, thereby inducing a new cycle of èvents tending to worsen the worker's lot, aggravate the country's economic plight, and increase the difficulties of absorbing foreign forced labor.

We conclude, then, that a free market economy does not lend itself easily to the use of forced labor in considerable quantities for protracted periods of time, except in non-competing (e.g. colonial) occupations. If compulsory labor is to compete with free domestic labor, the least difficulty would be expected in the case of continuous full- or over-employment, with payment of the "prevailing" wage rate to the compulsory labor group.

To a directed economy, forced labor presents less of a problem. The extent to which such an economy can utilize forced labor

depends, in this case too, upon the excess of need over the supply of labor, upon the state of the arts in regard to the use of masses of unskilled workers, and upon its ability to increase the spatial, territorial, and occupational mobility of the workers. If a state-planned economy happens to be rapidly expanding, the absorption of forced labor is clearly easier.[8] The wide unpopulated areas of Russia, waiting for exploitation of their natural resources,[9] on the one hand, and the rearmament of Nazi Germany, on the other, provided enough expansion to absorb forced labor. In regard to the removal of immobility, the directed economy has decidedly an advantage over the free economy. In the contemporary cases of the National Socialist, the Italian Fascist, and the Soviet states, the planned economy is an intimate part of a highly collectivistic social and political system. In such a system a set of values exists which is different from that normally associated with a free market economy in the liberal state. Étatism puts the welfare of the state before the welfare of the individual and his voluntary associations. Thus the Soviet state does not hesitate to resettle or to shift its two hundred different nationalities and national communities from their native habitat to any other place, if this seems advisable in the interest of the welfare of the Soviet Union.[1] The National Socialist State "deprived foreign workers of the basic civil rights of free men: ... of their right to move freely or to choose their place of residence; to live in a household with their families; to rear and educate their children; to marry; to visit public places of their own choosing; to negotiate, either individually or through representatives of their choice, the conditions of their own employment; to organize into trade unions; to exercise free speech or other free expression of

8. This was already true in Ancient Greece. "Economic competition between the slave and the free laborer seems to have been a negligible problem, at least in Athens where we know Greek slavery best. This may be explained perhaps by the fact that the economic organization of the Greek World was on the whole an expanding one in the fifth and fourth centuries." William Linn Westermann, "Slavery and the Elements of Freedom in Ancient Greece," Quarterly Bulletin of the Polish Institute of Arts and Sciences in America, January, 1943, p. 15.

9. David J. Dallin, The Real Soviet Russia, New Haven, 1944, Ch. XI.

1. Soviet Russia planned to move seven hundred thousand out of three million Lithuanians and three to four million Poles out of thirty million in eastern Poland to other parts of the empire, when it occupied these two countries before the German attack. Arthur Koestler, "The Yogi and the Commissar," p. 201.

opinion; to gather in peaceful assemblies; . . . to worship according to their own conscience."[2]

The state-planned economy can and indeed *must* fix the wage rate, and it can and *must* commandeer all or part of its domestic and foreign labor force into any occupation in which there exists a need for labor. Planning presumes the governmental determination of prices and consequently also of wages. In setting up the plan, the schedule of physical goods and services which the controlled economy wants to make available to its citizens and the schedule of their anticipated demand must be coördinated by what Professor Landauer calls "value planning."[3] "The price of labor, like other prices, must be estimated in advance by the planning board."[4] Later, when the plan is executed, the wages have to be imposed by compulsory arbitration at a level that is as close as possible to the economically correct one.[5] By fixing the wage rate, however, the planned economy eliminates the necessity of lowering the domestic wage rates because of an increased and more elastic (total labor) supply caused by the influx of forced foreign labor.[6] The *domestic* wage rate can be left fixed at a higher level. Furthermore, a socialized economy with its necessary choice of comprehensive social goals and its arbitrary pricing to those ends, cannot exist without interfering with either the freedom of consumers' choice or freedom of occupational choice."[7] Since most

2. "The Exploitation of Foreign Labor by Germany," International Labor Office, Montreal, 1945, p. 8.

3. Carl Landauer, Theory of National Economic Planning, Berkeley, 1944, p. 27.

4. Ibid., p. 84.

5. Ibid., p. 85; see also the writer's "The National War Labor Board and Postwar Industrial Relations," this JOURNAL, August, 1945, p. 516ff.

6. "Fortunately it is not necessary for the effective operation of a planned system that wages be exactly on the level which the economic theoretician would designate as correct. . . . If wages are too high, there will be a tendency toward unemployment, and the planning board will have to withdraw some of the labor supply from the market. The labor day may be cut down more than the individual worker may desire, or compulsory schooling may be provided for young people . . . or the retirement age may be advanced, or vacations increased, or *military or public labor service* introduced or extended." (Italics provided.) Landauer, ibid., p. 85.

7. Loucks and Hoot, "Comparative Economic Systems," p. 405; Ralph H. Blodgett, "Comparative Economic Systems," pp. 601–603. Even Professor Landauer, who believes that free choice of occupation in a planned economy can be maintained at the price of wage differentials ("Theory of National Economic Planning," p. 89) and if the planning board is informed of the intentions of individuals at an early date (ibid., p. 90), admits that the planning

planners desire to retain freedom of consumers' choice, the commandeering of labor becomes a necessity. Domestic labor can be directed into occupations from which forced labor will be barred and vice versa. By the commandeering of labor into certain occupations the state can, therefore, artificially create non-competing labor groups. Forced labor commandeered into a non-competing occupation does not depress the wage level of the wage earner whose own labor market is protected from this competition. Consequently wage discrimination in favor of the domestic workers, and to the detriment of forced labor, is perfectly feasible. Nothing prevents the state from employing the unskilled forced labor at the cost of maintenance or for a purely nominal wage. No longer must the economic system and the workers fear the repercussions from the use of forced labor upon the wage incomes and the employment level of domestic labor.[8]

Since forced labor, like Professor Lerner's underpaid immigrants,[9] is likely to receive a social dividend smaller than the amount it adds to the total social product, the difference accrues to the remaining claimants in the economic system, thus increasing the latter's social dividend and permitting a higher scale of living. This welcome addition affects all the factors of production. The existing distribution of wealth and income in a capitalistic economy will, however, raise some doubts in labor's mind whether it will participate at all in this bounty, and if so, to what extent. Moreover, if the economy fails to transform forced labor into a non-competing group, then, as Lerner points out, these citizens with whom our "immigrants" compete more directly may find their "*vmp*" (value of marginal product) reduced more than their share of the social dividend is raised. The Simon-pure laissez-faire economy could hardly be trusted to compensate "more than fully" its free domestic labor force thus affected, even if doing so would "still leave all the other citizens better off." Lerner's controlled economy may be able to cope with this problem more successfully. If labor can be assured of benefiting amply from the exploitation of

board must influence the individual's final decision, and if a change in a scale of earnings does not suffice, must use coercion. See also Barbara Wooton, "Freedom under Planning," Chapel-Hill, 1945, pp. 89–90.

8. This was precisely the case of native colored labor in the African mines in the nineteenth and early twentieth centuries. See International Labor Office, "Social Policy in Dependent Territories," Montreal, 1944, p. 30ff.

9. A. P. Lerner, The Economics of Control, New York, 1944, p. 364ff.

foreign forced labor, it will cease offering any resistance to such a scheme on economic grounds.

Neither the "free market" economy in its pure form nor its planned counterpart exists outside of textbooks. Even the mixed economies of the western Allies, which could be labelled predominantly liberal before this war, have undergone significant changes. Re-armament and war created in these areas an insatiable demand for labor which, when confronted with a sudden dearth of labor, necessitated the introduction of some elements of a planned economy. The Americans and the British had to resort to a considerable amount of labor commandeering and wage fixing. After victory, fear of inflation, disorganization of the national economic system, uncertainty as to the maintenance of peace, and an increased desire for economic security may be some of the reasons which prevented these countries from an early, speedy, and complete return to the prewar level of economic individualism. To the extent that these wartime measures are maintained — or even strengthened — in peacetime, these countries should experience fewer difficulties in making use of forced labor. The greater the discrepancy between the urgent demand for reconstruction and the available means of production, the greater remains the temptation to use reparation labor.

But let us assume that for economic and non-economic (legal, ethical, political, etc.) reasons a country refuses to utilize forced labor. Would it then be possible for Great Britain and the United States, for instance, to take the attitude that, although they did not want to have anything to do with forced labor themselves, they would maintain a hands-off policy, if any other country wanted to follow this policy? Evidently that is precisely the attitude these two countries are maintaining at the present time. But can these nations by so doing also avoid all the repercussions of the use of forced labor? As long as these countries maintain international trade relations with the countries using forced labor, they face the following situation. If forced labor enters into the production of any internationally traded goods, and if those goods, only because of their lower labor costs, can undersell in the domestic or in the international market the competing goods produced by the free American or British working man, then the compulsory labor used in the exporting countries exerts a downward pressure upon the money-wage of the free workers. The non-competitive,

artificially lowered wages of forced labor resist effectively any tendency of international trade towards equalization of the prices of internationally traded goods, as well as of the compulsory labor which produces them. The more favorable prices which the countries making use of compulsory labor can offer not only improve their terms of trade, but also tend, assuming an elastic demand for their products, to increase their share in the volume of exports at the cost of the abstainers from such a practice. Finally, the artificial advantage the users of forced labor are enjoying will also increase the number of commodities they can now sell in the international market.

The American wage earner has always fought any kind of price competition carried on at his cost, i.e. based upon the employers' competitive lowering of wages. He has fought against the competition of domestic forced labor, and has achieved the exclusion of convict labor products from interstate commerce.[1] Now, when he is facing the competition of what amounts to foreign prison labor, this will reënforce his traditionally protectionistic attitude, which arises invariably where his own trade is endangered by foreign competition. Even if the economist succeeds in convincing him of the merits of free trade, he will not be greatly impressed by the long-run advantages[2] to his nation or his class.[3] He is more interested in the immediate maximization of his individual money income, and will fear that increased foreign competition will lower his wage, or deprive him of his job without guaranteeing him a substitute income during the painful period of readjustment of the industrial equilibrium. The United States Tariff Act of 1930 (Section 307) prohibits the introduction of "all goods, wares, articles and merchandise produced or manufactured wholly or in part in any foreign country by convict labor or/and forced labor or/and indentured labor," under penal sanctions, except when such goods are needed to meet the consumptive demands of the United States. This provision of the United States Tariff

1. Hawes-Cooper Act of 1929, Ashurst-Sumners Act, 1935, Public Act No. 851, 1940.

2. Haberler, The Theory of International Trade, p. 194 ff.

3. The worker's traditional suspicion of government will also prevent him from putting much trust in the adequacy of an inflationary budget policy accompanying the introduction of free trade, which K. E. Boulding believes may suffice to offset the deflationary effects of tariff removal. "In Defense of Monopoly," loc. cit., p. 541.

Act is more in the nature of a moral condemnation of forced labor than an effective weapon against such international competition. It is not even applicable in those cases where forced labor indirectly decreases the price of the imported goods. For forced labor used for demining, or for reconstruction of roads, buildings and bridges enters also into the production of internationally traded commodities and hence into the formation of their prices. These roads and bridges are used in the transportation of those goods. They increase the cost advantage of the forced labor countries, either in the form of external economies or in the more specific form of subsidized and consequently lowered transportation charges. Furthermore, forced labor releases free domestic workers who, if shiftable, will participate directly in the production of the internationally traded commodities; these additional competitors for jobs will depress the wage and so proportionately will strengthen the price advantage of the forced labor area. We conclude, therefore, that even those countries which do not participate in the use of forced labor can hardly escape its consequences.

IV

In view of the serious consequences of the actual and the threatening use of masses of foreign forced labor, it appears desirable to conclude this paper with a review of the legality of its use under existing international agreements:

(*a*) The Hague and Geneva Conventions merely regulate the treatment of prisoners of war and provide for a limited degree of protection. They were never designed to regulate the protracted use of forced labor. Some of the nations subjecting prisoners of war to compulsory labor at the present time are not signatories of these Conventions.

(*b*) The (Anti-) Slavery Convention of September 26, 1926, contains in Art. 5 an undertaking on the part of the contracting parties "to take all necessary measures to prevent compulsory or forced labor from developing into a condition analagous to slavery."[4]

This provision permits the exaction of forced labor for public purposes. Where compulsory labor survives for other than public purposes, the signatory powers promised to put an end to this practice. Such labor should invariably be of an exceptional

4. League of Nations Document A, 19,1925 V.

character, should always receive adequate remuneration, and should not involve the removal of the laborers from their usual place of residence. It would appear that the introduction of Reparation labor violates at least the spirit, if not the letter, of this Convention. But again, some of the powers using or threatening to use forced labor have not signed this Convention.

(*c*) Neither the forced labor provisions of the B and C Mandates of the League of Nations[5] nor the (Colonial) Forced Labor Convention of June 28, 1930, including the Forced Labor Recommendations of 1930, apply directly to the use of reparation labor. Besides, a number of powers have failed to affix their signatures to the Forced Labor Convention, or have made a significant number of reservations.[6]

(*d*) Since none of the existing international agreements provides adequately for the international aspects of reparation labor, the United Nations face the necessity of drawing up a new compact to bring order into the existing anarchic situation. The following recommendations attempt very sketchily and tentatively to reconcile the exigencies of this new phenomenon with the present "International Labour Code." They borrow heavily, therefore, from the provisions of the (Colonial) Forced Labor Convention.

It would appear desirable that some agreement be reached on the basic principles which are to be applied to this new type of "colonial labor." The age and sex groups subject to the work obligation must be determined. The Colonial Labour Code restricts compulsory work to adult able-bodied males between 18 and 45, their fitness to be determined by a medical officer. Not only must there be agreement as to the numbers allotted to each claimant nation, the number of each age group to be called up at any one time, but also as to the total number conscripted. The Forced Labour Convention charges the authority with the duty of ascertaining that the work exacted will not lay too heavy a burden upon

5. B-Mandates: Art. 4 (3): The Mandatory shall prohibit all forms of forced or compulsory labor, except for essential public works and services, and then only in return for adequate remuneration.

C-Mandates: Art. 3 (1st para.): The Mandatory shall see that the slave trade is prohibited, and that no forced labour is permitted, except for essential works and services, and then only for adequate remuneration. See I. Hudson, 44–126.

6. See the recommendations concerning minimum standards of social policy in dependent territories, International Labour Office, Philadelphia Conference, 1944, Sec. 3, Art. 7 and 8.

the remaining population (Art. 9*d*) or imperil the food supply of the community concerned (Forced Labour Regulation Recommendation 1930 II). To avoid a breakdown of administration and education, exemptions of teachers, pupils and administration officials are provided (Art. 11*b*). Genocidal effects are prevented by ordering "the maintenance in each community of the number of adult able-bodied men indispensable for family and social life" (Art. 11*c*) and respect for "conjugal and family ties" (Art. 11*d*). The United Nations will furthermore want to set a time limit to the individual's service obligation,[7] as well as to the entire institution of reparation labor.

The most important part of any international agreements would refer to the hours, wages[8] and working conditions[9] of the workers. Generally speaking, these workers should be guaranteed the better of the two standards which prevail in their country of origin or of employment. The same principles should govern the applicable[1] provisions of any protective labor and social security legislation.[2] It will be necessary to decide upon standards for the recruitment, transportation, feeding,[3] housing and clothing of these

7. Art. 12 of the Forced Labour Convention restricts the period to sixty days per year and is hence obviously not adapted to Reparation labor. The further provision for a certificate of service may, however, be adopted.

8. The Forced Labour Convention Art. 14 follows the suggestion advanced later in the text in regard to wages (Art. 14, also providing for wages for traveling time, and restricting wage deductions) but lets the hours of the place of employment prevailing in the case of voluntary labour be decisive. Overtime payment and a weekly day of rest are mandatory. The proposed convention would also have to deal with the question of maximum hours, holidays, sick-leaves and vacations.

9. Whether certain occupations, because of their dangerous character or other reasons, should be excluded or the use of compulsory labor in them narrowly restricted (Art. 16, mining; Art. 18, porterage) will depend upon the wishes of the contracting powers.

1. Evidently unemployment insurance premiums of the country which exacts forced labor will not benefit the foreign worker. International Labour Office, "The Exploitation of Foreign Labour by Germany," Montreal, 1945, p. 210.

2. For accident and health insurance, see Forced Labour Convention Art. 15. Adequate medical care, hygienic conditions of work and living quarters, repatriation of the incapacitated or deceased workers are covered in Art. 17 and also deserve full attention.

3. The provisions of Art. 16 FLC sound almost Utopian. Principally they proscribe the transfer to districts where the food and climate differ so considerably from the community of origin as to endanger the health of the workers. When in cases of special necessity such a transfer is permitted, adequate measures relating to hygiene and accommodation necessary to adapt

workers. The respective rights and duties of the worker ought to be laid down in a written document,[4] a copy of which, in the language of the worker, should be put in his possession. This document should also contain the essential conditions of his employment, define the terms of his right to furlough,[5] of remittance of subsistence allowances to his family,[6] and of repatriation after the expiration of his term of service.[7] The contracting powers will have to agree upon the scope of the individual service obligation, upon the degree of discipline and obedience demanded, and upon the permissible methods of enforcing this discipline. Compulsory labor should not be made subject to any discriminatory tax or impost, and preferably should receive its remuneration tax-free. Moreover, forced labor ought to be guaranteed that degree of freedom which is still compatible with its status. It should maintain its freedom of movement (when off work), of religion, of expression and of assembly, together with its right to a normal family life. Most important, forced labor should be enabled to voice its demands[8] by representatives of its own choosing and to enter into that degree of collective bargaining which its status permits. An international organization, for instance the International Labor Office, should be empowered to set up an inspection[9] service to safeguard the interest of the workers.

The need for such an international agreement is urgent; the difficulties which stand in its way, terrifying. As long as the threat of reparation labor continues to hang over the economic and political world community, the need for mitigating the worst features of this legacy of World War II will continue to demand our attention.

Let us look back on the ground we have covered. At the time of this writing a considerable number of prisoners of war are per-

the workers to the new conditions have to be taken. Measures of gradual habituation to the new conditions of diet and of climate, progressive training, rest-intervals shall be adopted on competent medical advice, as well as any increase or amelioration of diet which may be necessary.

4. Forced Labour (Regulation) Recommendation 1930 I, FLC, Art. 24 (2)
5. The Exploitation of Foreign Labour by Germany, op. cit., p. 149ff.
6. Ibid., p. 159ff., FLC, Art. 17 (b).
7. FLC, Art. 17 (c, e).
8. FLC, Art. 23 (2).
9. FLC, Art. 24 (1).

forming Reparation Labor. The policy of the Potsdam declaration creates the possibility that this new form of forced labor may be continued beyond the period of reconstruction proper. Investigation into the general economic conditions favoring the use of this device reveals that a considerable number of the Allied nations might be tempted to utilize Reparation Labor. Analysis of the possible effects which compulsory labor might have upon the two arch-types of economic systems leads to the conclusion that the planned model is better suited for its use. It is the latter which could transform Reparation Labor into a permanent institution. Finally, it seems probable that even if the use of Reparation Labor should remain restricted to the directed economic systems, all other nations who maintain trade relations with them will be affected by it. The extent of these effects for the abstaining countries would be in direct proportion to the degree of their participation in the total world trade, as well as to the relative importance of foreign trade for their national production and consumption. The more we succeed in freeing international trade from its shackles, the greater its contribution to the social product of the world becomes, the greater the number of countries which will be affected by Reparation Labor used by other nations. Instead of decreasing in importance in time, Reparation Labor might therefore turn into an increasingly vexing problem. If this elementary investigation succeeds in attracting the attention of better qualified observers to these problems it will have fulfilled its purpose.

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FEDERAL RESERVE POLICY IN TRANSITION

SUMMARY

I. Introduction, 340. — II. Theory of credit control via member bank reserves, 341. — III. Impairment of the essential conditions of effective credit control, 341. — IV. Effects of Federal Reserve policies on the portfolio policies of member banks, 344. — V. Present status of Federal Reserve credit control policies, 345. — VI. Proposals for reform, 346.

I

Largely as a consequence of policies introduced in connection with war financing, the Federal Reserve has lost the power to control credit by existing indirect instruments of central bank policy. A weakening of the effectiveness of methods for controlling credit is no new experience for the Federal Reserve System; the introduction, one after another, of open market operations, the power to change reserve requirements, and the Treasury bill policy was tacit recognition in each instance of the shortcomings of existing methods of controlling credit. The over-all adequacy, however, of the credit control powers at the disposal of the Federal Reserve authorities continued to be insisted upon until recently. Statements that the amount of Reserve Bank credit "is wholly subject to control,"[1] that Federal Reserve Bank credit is "the one factor that is largely controllable,"[2] and the like have repeatedly appeared in official publications of the Board of Governors and elsewhere.

The demonstrable fact that this power has been lost is important enough on purely academic grounds. Today the inflationary pressures immediately confronting us and, no less, the possibility of deflationary tendencies in the somewhat more distant future combine to give the question of credit control an importance that is much more than academic. The Federal Reserve has shown great flexibility in meeting changed conditions, and there is no necessary ground for supposing that it will be unable to find a way out of the present impasse; but this may well prove the most difficult problem of adjustment the Reserve System has ever encountered.

1. Board of Governors, The Federal Reserve System, Its Purposes and Functions, Washington, 1939, p. 66.

2. Ibid., p. 92.

II

The success of indirect methods of credit control — where action by the central bank is designed to alter reserves in the expectation that the change in member bank reserves will lead to desired changes in credit extension by the member banks — requires the fulfillment of certain fairly well defined conditions. The first essential requirement is the existence of what is, from the standpoint of the central bank, a governable relationship between the reserves and deposits of member banks. This means the maintenance of a constant ratio between reserves and deposits, the existence of a ratio which changes at the will of the central bank (as when reserve requirements are deliberately altered), or the ability of the central bank to offset changes in the ratio which result from the action of member banks, such as might arise from an increase or decrease of excess reserves.

The existence of a constant relationship between reserves and bank deposits has generally been assumed by writers on central bank policy. Lord Keynes devoted a section in the Treatise on Money to "The Stability of the Reserve-Ratio," and proved to the satisfaction of himself, if not of later history, that a stable ratio between reserves and deposits could be counted upon.[3]

The second essential condition for effective control of credit by the indirect instruments of central bank policy is the ability of the central bank to influence the volume of member bank reserves.

As long as these two conditions prevail, the central bank has clear and unequivocal power to control the volume of member bank credit. To the extent that either of them is lacking, the central bank is deprived of its ability to control credit, or is placed under the necessity of counteracting, by more intensive use of powers that still remain, the limitation thereby imposed.

III

Both of the essential conditions of successful control of credit have been impaired by the events of recent years. The first major development undermining Reserve Bank control over credit was the emergence of excess member-bank reserves on a substantial scale. The piling up of excess reserves constitutes a rise in the

3. J. M. Keynes, A Treatise on Money (London, 1930), Vol. II, pp. 53–66.

ratio of reserves to deposits. It signifies that there has been an increase in reserves without a corresponding increase in deposits or a decrease in deposits without a corresponding decline in reserves. Likewise, the existence of excess reserves creates the possibility that their utilization at the will of the member banks may offset action of the central bank intended to contract credit. In other words, the willingness of member banks to accumulate excess reserves impairs the ability of the authorities to induce credit expansion, and the existence of excess reserves, which can be reduced at the will of the member banks, compromises the ability of the authorities to induce a contraction of credit.

Until recently it would have been said that the second condition of successful control of credit was assured, i.e. that the Federal Reserve authorities have the ability to alter the quantity of available reserves approximately at will. It is true that the possibility of a shift from time to demand deposits, which would alter the amount of free reserves independently of action by the central bank, was recognized. Moreover, students of the Federal Reserve System are familiar both with the manner in which open-market purchases in the early 'thirties resulted in the repayment of member-bank borrowing with relatively little increase in reserves, and with the extraordinary manner in which member bank reserves were expanded by the influx of gold from 1934 to 1940. These were highly specialized situations, however, and even then the ability of member banks to determine the volume of reserves by their independent action was distinctly limited. The situation which has now developed is of very different character and magnitude, and represents a far more serious departure from the second condition of successful control of credit by the indirect instruments of central bank policy.

What has happened is a direct consequence of measures adopted in pursuit of the major objective of Federal Reserve policy which the Board of Governors announced the morning after the attack on Pearl Harbor:

> To assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government Security market that are satisfactory from the standpoint of the Government's requirements.[4]

4. Federal Reserve Bulletin, January 1942, p. 2.

The two most distinctive policies put into force following this announcement provided for the purchase and sale of Treasury bills at a guaranteed rate and for the establishment of a fixed pattern of interest rates on Government obligations.

The statement of Federal Reserve objectives was so clearly reasonable that not a voice was heard in dissent. The two principal methods adopted to make the policy effective were no less obviously appropriate to the end in view. Yet the combination could not have been more perfectly contrived to deprive the indirect instruments of credit control of their effectiveness. The Federal Reserve's agreement to buy Treasury bills *at a guaranteed rate* had the effect of giving any member bank holding bills the power to demand reserves whenever it desired; and the undertaking to preserve a fixed pattern of interest rates extended this power, in effect, to banks holding other types of Treasury obligations as well. It was clear that in order to prevent yields from rising above the stipulated rate, the Reserve authorities would be obliged to purchase *any* issue — if anyone chose to offer it and if other buyers were not at hand — at a rate corresponding to the yield established by the fixed pattern of rates.

The logical consequence, then, of providing a guaranteed market for Treasury bills and of establishing a fixed pattern of rates on other Treasury securities was to destroy the power of the Federal Reserve authorities to refuse to furnish reserves. To say that the Reserve Banks thereby lost the power to control credit is not to say that the member banks or any other group, official or unofficial, acquired this power. With these policies in force, member banks can, it is true, compel the creation of reserves without the possibility of being subjected to a penalty rate of discount; but that is very different from their having control over credit in the sense in which the Federal Reserve was formerly assumed to have it. The consequence of the policies introduced has been the disappearance of the power to control credit by means of reserves, not the transfer of that power to others.

The great expansion in holdings of Government securities by member banks was an additional factor impairing the power of the Reserve Banks to restrict credit. The Reserve authorities would hardly dare to sell heavily in the open market or force up interest rates, for fear of depressing securities of the types held by member

banks to such an extent as either to weaken the banks or to create undue alarm.[5]

IV

Perhaps the most embarrassing consequence of wartime Reserve Bank policies arose out of the practice of maintaining a fixed pattern of interest rates on Treasury obligations. This action served to make all Federal securities, regardless of maturity, fully liquid at prices corresponding to yields determined by the established pattern of rates; but as soon as issues of all maturities became equally liquid, the schedule of different rates ceased to be self-sustaining. There was every inducement for banks to shift from the shorter to the longer maturities, in order to realize a higher rate of return. Only as long as there was some doubt concerning the future liquidity of longer-term securities, because of the possibility that the Reserve authorities would abandon the policy of guaranteeing a market, was there an economic basis for differences in rates.

The dilemma inherent in maintaining a fixed pattern of rates, though early recognized by economists, produced its effect only gradually. Increasingly in 1944–46, banks and others tended to reduce short-term holdings and add to long-terms. The results were manifest in the sales of bills and certificates to the Reserve Banks and in the rising prices of longer-term Governments of types banks were allowed to buy. There was no longer any question of preventing intermediate and long-term Treasury issues from falling below parity. Instead, they tended to rise to a substantial premium.

Convinced that the danger of a significant decrease in deposits had been greatly exaggerated, banks extended their purchases of relatively long-term securities to corporate issues as well. Insurance companies and other investment institutions experienced growing difficulty in obtaining satisfactory rates of yield on new investments. Some relief was afforded by the Treasury's action in stipulating that the long-term issues were ineligible for

5. This limitation on Federal Reserve credit policy has been recognized for some years. To a considerable extent this particular difficulty could be overcome by proper coördination of the different instruments of credit policy. The obstacle created by the power of member banks to force the creation of Reserve Bank credit at a fixed charge to them, while not unrelated, is of a very different character.

purchase by banks until ten years before the call date, but the relief was partly neutralized by the fact that this provision served to accentuate the upward pressure on other long-term issues which were bankable.

V

While the purpose of the present analysis is primarily to call attention to a highly significant development in the field of central bank policy, it is only fitting to inquire where this fundamental change leaves the Federal Reserve System. It can be said, in a word, that credit control of the character referred to in the statements quoted earlier is completely lost. Changes in the discount rate, open market operations, and changes in reserve requirements may continue to serve a useful purpose in steadying the market for Government securities or facilitating the adjustment of reserve balances; but for effecting fine adjustments in the volume of member bank balances as a means of accurately limiting the volume of credit, their usefulness, whatever it may have been in the past, is lost, unless or until conditions change drastically from what they are today.

The circumstances which have so greatly compromised the controls that operate through reserves have had no significant effect on those controls which are independent of reserves. In particular, the selective credit controls, i.e. those relating to consumer credit and margin requirements, are as good as ever.[6] Moral suasion is still an important instrument of policy, more influential, perhaps, than officials of the Reserve System have generally been inclined to acknowledge. During the second World War the Reserve authorities resorted to moral suasion to induce banks, insurance companies and others to refrain from "rolling over" holdings of Governments on which they might be able to capture a premium. While the practice persisted to some extent, the personal intervention of Reserve Bank officials unquestionably prevented many sales that would otherwise have been made. With the passage of time, and particularly after the end of hostilities, the effectiveness of these measures declined.

The history of the Federal Reserve System ever since its

6. Except so far as the powers conferred by the law have already been partially exhausted or external considerations, such as the opposition of businessmen, interfere with their exercise.

establishment has been marked by a notable capacity for adapting its aims and methods to changing conditions. Of the major instruments of credit policy, only the discount rate was of any importance at the inception of the Federal Reserve. The granting of advances on the security of Government obligations was instituted in 1917. Open-market operations on any significant scale came into use after the first World War and progressed through four clearly distinguished phases,[7] namely, to obtain earning assets for the Reserve Banks, to influence the volume of member-bank reserves in order to control credit, to preserve "orderly conditions" in the security market, and to maintain a fixed pattern of interest rates on Treasury obligations. Like the establishment of a pattern of interest rates, the Treasury bill policy, which is sometimes included under open-market operations, was introduced during the second World War. The provisions for changing reserve requirements and for determining margin requirements were introduced as part of the legislation of 1933-35. Regulation W, for the control of consumer credit, was instituted in 1941.

The Federal Reserve System of 1946, then, is far different from the Federal Reserve System of 1914. It is no exaggeration to say that if the Federal Reserve had failed to change with the times, it would now be as out-of-date as the National Banking System was when the Federal Reserve Act was passed. This remarkable resiliency and ability to develop with the times distinguishes the history of the Federal Reserve System from the history of the National Banking System. It affords ground for believing that ways may be found to compensate for the powers of credit control which have now been lost.

VI

As the foregoing analysis indicates, the Federal Reserve is not merely weak but impotent when it comes to controlling credit by the indirect instruments of policy. This condition is inevitable, granting (*a*) the present distribution of Government securities in bank portfolios, and (*b*) existing Federal Reserve policies vis-à-vis interest rates and Government securities. Official statements emanating from the President, the Treasury, and the Federal Reserve leave no doubt that the general outline of policy on inter-

7. Charles R. Whittlesey, Bank Liquidity and the War. National Bureau of Economic Research, New York, 1945, pp. 63–66.

est rates and the Government security market will continue, i.e. that interest rates will be kept low and Treasury securities will not be allowed to fall below par.[8] If these limitations of policy are accepted as given, the possibility of action to restore Federal Reserve control of credit is narrowed to (*a*) eliminating Government securities from the portfolios of member banks, or (*b*) destroying their convertibility into reserves. Measures to restrict their ready exchangeability for reserves, however, cannot be of such a character as to jeopardize the stability of the price of Treasury securities in the open market.

Two specific proposals have been advanced by Professor Simeon E. Leland, Chairman of the Federal Reserve Bank of Chicago. A few years ago the proposals would have been regarded as radical in the extreme, and even now they come as a shock to most bankers and many economists. Nothing could more clearly attest to the gravity of the problem before the Federal Reserve System than the fact that a high official finds plans of this character to be called for.[9] The proposed solutions would be (*a*) to issue special non-marketable Treasury obligation for ownership by banks, or (*b*) to redeem bank holdings of Treasury obligations in Reserve Bank credit, with a corresponding increase in reserve requirements combined with the payment of interest on reserve balances.[1]

The first of these two proposals provides for a special issue of securities which would be exchanged for "a substantial proportion" of the Treasury obligations now held by banks. These new securities would perform the usual functions of earning assets: they would furnish a source of income, provide a means of redeeming deposits, and would be capable of discount subject to condition laid down by the Reserve Banks. The fact that the securities would be non-marketable constitutes the most significant feature

8. Adjustments within the pattern of interest rates are entirely within the limits of probability.

9. Professor Leland acknowledges the assistance of Professor L. W. Mints and Dr. J. K. Langum in the preparation of the article in which these proposals appeared. Professor L. H. Seltzer is also said to have helped in formulating some of the ideas embodied in the suggestions. American Banker, February 4, 1946. Cf. Lawrence H. Seltzer, "The Problem of Our Excessive Banking Reserves," Journal of the American Statistical Association, March, 1940, pp. 27–35.

1. "The Government, The Banks and the National Debt," Commercial and Financial Chronicle, January 17, 1946, p. 283.

of the proposal. As a consequence of this stipulation, the Federal Reserve Banks would be able to continue their policies of supporting the price of securities held outside the banks and at the same time treat the special issue differently, abandoning the policies which at present enable member banks to force the hand of the Reserve Banks. The Reserve authorities would thereby retrieve their power to control credit by means of open-market operations, the discount rate, and the member-bank reserve ratio.

The amount of the special issue of Treasury securities which banks would be required to hold would be prescribed in relation to the volume of deposits, somewhat as reserve requirements are now prescribed; and in order to facilitate credit control the ratio required would be subject to change by the Federal Reserve authorities. In effect, commercial banks would be required to maintain a minimum reserve in the form of Treasury securities and the requirement would presumably apply to all commercial banks, whether or not they were members of the Federal Reserve System. Banks would retain their freedom to hold, buy, and sell marketable issues, but the proportion of such operations in which they would be able to engage would presumably be kept so small that they could not threaten the stability of security prices.*

The interest rate on the special issue of Treasury obligations to be held by banks would be maintained at a low level and would be closely related to the cost of providing checking facilities. The rate might be altered on the basis of business conditions and in accordance with purposes of credit control. The securities would bear no maturity dates, but would be payable at the pleasure of the Government.

The other plan suggested by Professor Leland is for the government to repay Treasury obligations held by commercial banks out of funds to be borrowed from the Federal Reserve Banks. The effect would be to transfer the debt from commercial banks to the Reserve Banks; and by an offsetting increase in reserve requirements the consequent increase in member-bank reserves would be prevented from providing a basis for credit expansion. In order to maintain the income of commercial banks, interest would be paid on reserve balances. "Both the reserve requirements and the interest paid on reserve balances could be made variable at the discretion of the Reserve Banks, with Treasury approval, to

secure the appropriate credit policies needed by the economy."[2]

Provisions could be introduced, or rather re-introduced, to return surplus earnings of the Reserve Banks to the Treasury. "Whatever advantage these arrangements possess would eventually accrue to the people whose collective credit was being utilized. If at times it proved to be more costly than the present contractual system, at least the incidence of the cost could be defended as being fair."[3]

The first of these proposals, as Professor Leland notes, somewhat resembles the policy of borrowing on Treasury deposit receipts which has been followed in England since 1940. The success of the policy there is cited in support of the present proposal. The power and, at the same time, the responsibility of the Treasury over the earnings of commercial banks would be far greater and more direct than ever before in our history.

The second proposal is essentially an adaptation of the 100 Per Cent Reserve Plan. Even more than in the previous instance, the Treasury, through the Reserve Banks, would occupy a position of strategic importance with respect to member bank earnings.

The chief drawback of these proposals is not that either of them would fail to accomplish its purpose. On the contrary, they are well adapted to restoring the power of the Federal Reserve to control credit. They would allow the essential conditions of a solution to be met; in the one case, by largely eliminating Treasury obligations from commercial bank portfolios; in the other, by overcoming the perfect convertibility of government securities into reserves. Moreover, the proposals are compatible with preserving the policy of supporting the Government security market.

The practical difficulty with the proposals is that — notwithstanding the distance our thinking has progressed, as the mere fact that such suggestions can proceed from high official sources testifies — they are too new and strange to seem likely to find public acceptance. Furthermore, any plan which would call for determining the rates of yield on member-bank assets would impose an unenviable burden upon those responsible for deciding the level of rates. A uniform limitation of the level of rates payable to banks would be hardest on the smaller banks, since in general they hold a higher proportion of longer-term securities, and might

2. Ibid., p. 284.
3. Ibid.

leave the large city banks, which hold mostly low-yield issues, largely unaffected — precisely the opposite of what would presumably be desired. On the other hand, if the authorities should attempt to differentiate by accommodating yields to the needs of different banks or categories of banks for earnings, the complications would be endless and vexatious.

For the present, at least, Federal Reserve policies may be expected to develop along more conventional, less spectacular, lines than those suggested by Professor Leland. What these lines will be cannot be foretold, especially since the Treasury has shown a disposition to rule out, certainly for the time being, even such minor modifications of current policies as the abandonment of the preferential discount rate on loans secured by short-term Treasury obligations.[4] But it is clear that, granted a continuation of present conditions, the only alternatives open to the authorities are to accept the loss of their power to control credit or to devise new instruments of control which will be direct in character and more powerful than any hitherto developed.

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4. Journal of Commerce, February 5, 1946.

"ABILITY TO PAY"[1]

SUMMARY

The problem, 351. — Economic and moral aspects, 351. — "Fair wage" the core of the question, 352. — Commutative and social justice, 353. — "Ability to pay" involves a question of commutative justice, 357. — The basic principle, 357. — Examples, 359. — Modern applications, 359. — Apparent exceptions to the principle, 361. — Needless poverty of our economic philosophy, 362.

Economic science has long been engaged in a legitimate struggle for independence, to keep itself "pure" and "scientific." The legitimacy of this effort to exclude the purely subjective and eliminate the factor of choice not based on objective economic data has caused economists at times to do more than merely prescind from the data of other social sciences. The intensity of the desire to be free and independent has caused the economist not merely to prescind but to ignore and even to contemn.

The realities of the market place can remind us that the legitimate precisions of scientific method do yield but a conditional result. The actions of economizing individuals, however important to the economic scientist, are in the concrete the actions of men whose motivation is not exhausted by economic factors and whose rational actions as human beings may seem irrational on exclusively economic grounds. The troubled waters of current American economic life have recently tossed up from the deep a public question in which the economic and non-economic, usually neatly separated by the economist, are objectively bound up together almost inseparably. The question agitated is whether the ability of a corporation to pay higher wages is *in itself* the basis of a just title by which labor may demand higher wages.

Obviously there is an economic aspect to this question. First of all, "ability to pay" must be understood in a realistic economic sense. The phrase does not mean merely having enough money in the bank to meet a certain wage bill on a given date. It means having a continuous supply of revenue to meet the wage bill after prices and output have adjusted themselves to the changed rela-

1. Based on the author's presidential address at the January, 1946, meeting of the Catholic Economic Association.

tionship that the new wage level involves. Besides this economic aspect of the question, there is clearly a moral one, too. Put practically it is this: a company should or should not pay a higher wage if it is able to; a company is under an obligation or is under no obligation to pay a higher wage if it is able to. Therefore, not only is there a question of economic fact — the present ability of a company to pay a higher wage — and of economic analysis — the probable ability of a company to continue paying a higher wage — but there is also a question of moral obligation. Because a company *can* pay a higher wage both now and next year, is it obliged to pay a higher wage?

There is a question of genuine and radical significance. Very large corporations control huge aggregates of capital. These corporations, masterfully organized as technical units, are perhaps the most important factors in the productivity of our industrial economy. Human efficiency is enormously enhanced by the use and control of these vast systems of capital goods. Obviously, many persons depend upon the very large corporation for employment and for the things the corporation makes. Therefore, the natural resources and human labor embodied in these capital goods and the materials constantly being processed by them have both their social aspect. These goods are destined for the maintenance and utility of the whole community; and the labor expended upon them is a contribution to the community by members of the community who expect from the community an equitable share in the total product. Any fundamental question which is raised concerning the efficiency of present property arrangements in reducing the resources of the community to their proper service, namely the utility of the whole community, deserves very careful scrutiny.

The core of the question about ability to pay is the fair wage. What is a fair wage? If a corporation can pay a higher wage than its direct or indirect competitors pay, has it, for that precise reason, any moral obligation to pay the higher wage? This reduces itself to a question of a fair price. The fact that "labor is not a mere commodity," either in Christian tradition or American law, does not prevent the service which labor performs from having a just price.

Apart from the Marxists, the last group of economists who sought to deal with economic and moral questions in theory as they are in fact, identified in an objective institution or situation, were

the scholastic moral economists, whose work reached its greatest development in the seventeenth century and has lately been revived. We shall apply their principles and methods to this problem, supplementing the earlier writers with a few statements from the elaborate résumé of scholastic economics contained in the encyclical letter of Pius XI on the Reconstruction of Social Order.[2]

"The only form of labor, however, which gives the working man a title to its fruits is that which a man exercises as his own master and by which some new form or new value is produced. Altogether different is the labor one man hires out to another and which is expended on the property of another."[3] A contract of hire, which is the expression used, involves a price paid for the use of something which the one hiring does not own. One of the important reasons why the labor contract is a contract of hire is precisely that neither the human being who works nor the service which he performs is owned by the one hiring. But a contract of hire involves a consideration, and that consideration must be expressed in money terms. And, therefore, even though labor is not a mere commodity, the price at which the labor services are hired cannot be extracted from the price system and discussed as if it had no relation to it. As is evident on reflection, this is implicit in the thinking of those who wish to establish ability to pay as one of the criteria of a fair wage. The very statement of this position demanding a fair wage assumes that wage is a price and that there is some unique price for the services of labor which is fair in relation to the price of goods and other forms of labor service.

A wage or price may be said to be just in two quite different ways. A price may be just in *commutative justice*, that is, the exchange justice involved in the ordinary contracts made in a market when the price set by fair market is accepted and paid by both parties. This is the kind of justice which is observed when goods and services are bought and sold, rented and hired, loaned and borrowed; and the importance of this kind of justice is rarely questioned. Human beings may default on their contracts, may fail to pay their debts, or may make specious quibbles about the terms; but no man dares to deny that a fair contract in commuta-

2. On this general subject see B. W. Dempsey, "Quadragesimo Anno in the Business World," Harvard Business Review, October, 1932, and "Interest and Usury," Washington, 1943, Chap. VII and VIII.

3. Reconstruction of Social Order, Sec. 52 and 53.

tive justice should be met even when circumstances may cause the contract to be much more burdensome than the one contracting anticipated.

Now the prices which enter into these contracts, even when they are perfectly fair, have very little to do with the intrinsic or ultimate value of the objects concerned. Beef and bread sell for much less than diamonds, though if we had to decide whether to go entirely without diamonds or without beef and bread, the total supply of beef and bread would be of far more value than the total supply of diamonds. Thus cab drivers may earn more than school-teachers, not because the service they perform is of greater intrinsic worth, but because in relation to the need there are more persons who desire to teach school than there are who wish to drive taxicabs. These are questions of economic values, not moral or metaphysical ones, a fact recognized 1500 years ago by the great St. Augustine, when he wrote: "There is, however, a different value set upon each thing proportionate to its use. Wherefore we set a greater value upon some insentient objects than we do upon some sentient objects. So much so, in fact, that were it within our power we should like to remove these living things from the order of nature, either because we do not know what place they hold in the scheme of nature, or, even if we did know, because we value these living things less than our own convenience. Who does not prefer to have bread in the house rather than mice, or money rather than fleas? But why be surprised, since in the value set upon men themselves, whose nature is certainly of paramount dignity, very frequently a horse is held more dear than a slave, or a jewel more precious than a maid servant? Since every man has the power of forming his own mind as he wishes, there is very little agreement between the choice of a man who through necessity stands in real need of an object, and of one who hankers after a thing merely for pleasure."[4] And wages paid to different types of labor service may have little relation to the moral and metaphysical values of these services. These services, like all other economic elements, are valued in money according to their usefulness in a given economic situation. These observations may be commonplace to the economic analyst, but they are easily overlooked in public controversy.

But the wage which is due and paid to a worker in commuta-

4. Augustine, De Civitate Dei, Book XI, Chap. 16, CSEL (CV), Vol. 40, p. 535.

tive justice may be insufficient to maintain a worker in decency and with the capacity to meet his basic human obligations: life, liberty, and the pursuit of happiness, both proximate and ultimate, and the maintenance of similar opportunity for his children. That is, though human beings may set proximate economic values on goods and services, these goods and services can never be considered entirely apart from their final destiny. The natural resources of the earth are destined for the maintenance of all men, and man's economic purposes are only proximate and may not stand in the way of man's ultimate end, the development of his own personality and the personality of those dependent upon him.

Therefore, in addition to meeting the requirements of the exchange justice of the market place, a wage or price must also meet the demands of *social justice.* Though commonly recognized in the first stages of American economic life, this indispensable virtue is today ignored almost as completely as exchange justice is accepted. Social justice places a positive responsibility on every member of a society to contribute positively to the common good of that society. In the matter of wages, social justice demands not that the worker receive the economic value of his work, that is, exchange justice, but that he must receive the social value of his work. The full activity of the head of a family is a contribution to the wealth of the community by one of its members of all that he is capable of contributing. All the income of the community is made up of such contributions. In return for such effort, he has merited to receive from the community the means of living an adequate life as a human being.[5]

Whenever any significant number of willing and competent men do not receive such a return for their efforts, then the community and the economy fail in their purpose and must be recalled to first principles and rectified in their operations accordingly. When such disorganization exists, social justice, which requires of every man all that is necessary for the common good, binds every member of the community. When an industry collapses and widespread unemployment develops, or when an industry becomes

5. The basic relations within the community may be set forth: Man to Man — Commutative Justice; State (organized community) to Man — Distributive Justice; Man to Community — General Justice. General Justice is subdivided into Legal Justice, expressing man's relation to the organized community (State), and Social Justice, man's personal relation to the communities of which he is a member, to be organised or improved (reorganized).

chronically ill and drags along year after year yielding less than a decent living, then every person — owner, investor, manager, worker, consumer, supplier, neighbor — may have an obligation to contribute positively to the solution of the problem. Coöperation of every sort may be demanded of all to discover a more efficient method of dealing with the workers, the materials, the processes, the products of that industry, so that the economic value of the worker's contribution shall be equal to its social value.

A limited area may conceivably be so meagerly supplied with natural resources, its inhabitants so benighted in ignorance and inefficiency or so weakened by disease or malnutrition, that the best will in the world may not produce a decent livelihood. But the continuous progress in economic efficiency of the utilization of resources indicates that this must be an isolated and abnormal circumstance. Taking the Western World as a whole, in spite of the blighted areas of the late eighteenth and early nineteenth centuries, social and economic progress have moved together. And certainly we in the United States, the beneficiaries of a lavish Providence, have no such explanation to offer if our economy fail to provide each family with a decent living.

All of us, then, have need of the community, both social and economic, for the maintenance of decent living; all of us need the support which we receive from each other through the community. The community clearly can supply those things we all need only through its members. If we expect this support from the community — and we must — we are bound to contribute correspondingly. We cannot contribute a dollar for dollar quid pro quo, as we do in exchange justice. But we can and must make every contribution within our power to the common good of the community within which we live and without which we cannot live.

Lack of understanding, appreciation and reliance upon the virtue of social justice is the root cause of today's widespread social tension. "Liberalism" sought to conduct economic society with exchange justice alone as a guide. The many areas of economic life thus left ungoverned created problems of the gravest order, situations at least some of which were regarded as unjust by men of good will. But some of the most difficult cases were not clearly wrong in commutative justice, and people did not know how to attack them. Socialism with its exclusive reliance upon the omnipotent state and its distributive justice seemed to be the only

recourse for a solution, and this default is the principal explanation for the spread of socialism outside of Russia.

With these general provisions concerning the just wage, we turn to the problem of ability to pay. This is a question of commutative justice; for social justice does not directly enter into the employer-employee relationship, but concerns the relation of both to the community. We are speaking, therefore, of the obligation incumbent upon an employer to pay a higher wage simply and solely because he is able to do so. We also call again to mind that a wage-rate is interlaced with a price system: "A reasonable relationship between different wages here enters into consideration. Intimately connected with this is a reasonable relationship between the prices obtained for the products of the various economic groups."[6] The fact that the services which labor hires out are the services of a human being, not a mere commodity, does not exclude them from the process of valuation. If it did, there would be no wage structure, but one dead level wage rate.

The common and certain doctrine among scholastic moral economists is that neither the need nor the capacity of the individual buyer is a factor in determining the just price. On the assumption that there is a fair common price, which emerges in a fair market, the special circumstances of a particular buyer are not just title for raising the just price.

Whatever may be the value of a particular commodity to an individual for his personal use, the values which are to be equated in exchange are those set up by common evaluation. This, and not the special valuation of the individual, is the ruling one in exchange. Accordingly, the common scholastic axiom that "exchange was introduced for the common good" may be seen in its two-fold meaning: (1) for the mutual and reciprocal advantage of both parties (preserved by maintaining equality of values in the exchange); (2) for the advantage of the whole community (if goods of various useful values are exchanged in the community until their use values and exchange values balance all around, the fullest advantage has been obtained from the division of property and the division of labor, both of which have the purpose of reducing the face of the earth to man's greater service). And it is the valuations of the community which determine the ratios which prevail in this process "instituted for the common good."

6. Reconstruction of Social Order, Sec. 75.

One corollary of the doctrine of exchange justice which is invariably insisted upon by the highest authorities must be noted here. In any contract of exchange, the thing for which a consideration is given must, without exception, be the property or quality of the seller. The title by which one receives a price for something from another must be resident in the seller; the necessity or special opportunity of the buyer confers no title on the seller to receive more than the common price. The buyer's need does not confer a title on the seller; neither does the buyer's ability to use the thing bought. Any special advantage of the buyer does not of itself and in the first instance affect the common price of the good or service in question; and therefore it confers no right on the seller to hold up the buyer for a higher price. If the advantage be not special but general, then of course it would affect the common price, and the higher valuation would be legitimate.

This principle is clearly and fully stated, not merely as true and correct but as common doctrine, by four of the greatest moralists and best economists in the scholastic tradition — Dominic Soto, Louis Molina, Leonard Lessius and John Cardinal de Lugo. Each in his turn states that this is the doctrine of Thomas Aquinas as well as common teaching.

Father Soto says: "We conclude that the advantage which accrues to the buyer and which is the cause of no loss to the seller may not enter into the price. . . . The seller may sell only that which is his, but the advantage of the buyer is nothing of the seller's; rather the necessity or skill of the buyer is its source."[7]

Father Molina states: "That one may not accept a higher price by reason of the advantage or gain of the buyer is proved from the fact that the advantage is not something of the seller's but the buyer's; therefore the seller may not accept payment for it; otherwise he would sell what is not his. Thus St. Thomas and with him the doctors commonly."[8]

Father Lessius, writing a few years later, accepts the principle almost literally: "Notice however that one may not sell a thing for more because of some special utility or necessity of the buyer (as many conscienceless people do). Thus St. Thomas in this

7. De Justitia et Jure, Libri Decem R. P. F. Dominici Soto, O.P., Venice, 1602, Lib. VI. Q. III, Conc. 4a.

8. De Jure et Justitia, R. P. Ludovici Molinae, Coloniae Allobrogum. 1759, Disp. 348:6.

article and the doctors commonly. The reason is that no one can sell to another that which belongs to that other. But the utility in question is the buyer's, not the seller's, and arises from a circumstance of which the seller is not the cause."[9]

And the great Cardinal de Lugo, who certainly stands in the first rank of moralists and economists, repeats: "This regard of the buyer for the object or his special need cannot be sold. . . . The reason is that all these things belong to the buyer, not to the seller, and he cannot sell what is not his."[1]

It is necessary to add or emphasize once more that while the special, individual need of a single buyer furnished no title for an increase in the just price, this one buyer would always be one factor in the determination of the whole market. But once that market was organized and a fair price arrived at, then the special, individual need could not be singled out.

The examples given by classic authorities to prove that the special need or capacity of the buyer may not affect the just price are of two sorts. A druggist, for example, may have in stock a remedy which, though medically very important, is in sufficiently widespread use to have a common and low price. A man of wealth may have acute need of this drug and at the moment be unable to obtain it save from one source. Circumstances can easily arise in which simple, low-priced drugs can have great emergency value. The need of the wealthy man and his capacity to pay are not factors permitting the just price to be raised. They are qualities of the buyer, not the seller, and the seller may not charge for them.

The second standard example is that of the purchase of a seemingly unmanageable horse. In the common market, such a horse would be correctly valued at a low price. A buyer appears who shows while trying out the horse that he, and apparently he alone, can handle it with no difficulty whatever. The common price has been determined in a fair market and is a low price. The special ability of the one rider does not change the common valuation, and the seller may not charge the buyer for the buyer's peculiar skill. Though the horse may be of great value to the buyer, it must be sold at the common, low price.

The principle involved in the second case is the one most applicable in modern industry. In a new industry applying a genuine

9. De Jure et Justitia, etc. R. P. L. Lessii, Louvain, 1605, Disp. 21:21.
1. Tractatus . . . de Jure et Justitia, ed Fournais, Paris 1868, Disp. 26:43.

innovation, labor and materials identical with those employed or utilized in similar or neighboring industries are attracted into the new industry, either by slight wage increases or simply by the opportunity of employment. Even with a slight wage increase, the new industry, if its innovation be sound, can make substantial profits. In this case, the industry is paying the common rate or better and is still making high returns. Such returns are due to the special ability of the enterpriser; and while his ability to pay more may enable him to expand more rapidly or attract the most efficient and reliable workers, assuming the market to have been fair in the first place, the high profits cannot be urged as grounds *in justice* for a higher wage rate.

A similar case appears when a one-man business, long directed successfully by its founder, loses that manager with his knowledge and experience. Such a business may go into a period of some years of steady and severe losses. Various expedients are tried; they usually seek to substitute for the old man's knowledge by dividing up functions. Finally a workable combination of persons or form of organization is hit upon and the profits reappear. Now during this whole sequence the company may have had exactly the same labor staff producing the same line of commodities, and yet the company first shows profits, then losses, then profits again. Neither the company's ability to pay nor its inability to pay is, in these circumstances, a reason for either lowering or raising wages.

This thought appears in its modern form in The Reconstruction of Social Order: "It is unjust to demand wages so high that an employer cannot pay them without ruin and without consequent distress among the working men themselves. If the business make smaller profit on account of bad management, want of enterprise or out-of-date methods, this is not a just reason for reducing the working-men's wages."[2] For purposes of this discussion, the negative form of this proposition is unfortunate, but if smaller profits due to "bad management, want of enterprise and out-of-date methods" furnish no just title for reducing wages, it seems logically valid that larger profits due to good management, vigorous enterprise and up-to-date methods furnish no title in justice for increasing them. The whole emphasis of this passage on wages is centered on the common good and on the maintenance of wage relationships and price relationships that express economic reality,

2. Reconstruction of Social Order Sec. 72.

with social justice ruling the whole and fixing the responsibility on all to see that our social institutions reflect social reality, so that the real prices of exchange justice operate in a social structure which causes the goods and effort of all to move steadily to the common welfare of all.

In our present circumstances of universal readiness to fix prices, it is well to recall Lessius' judgment that a price set by public authority may be just as "unreasonable" as that set by a monopolist. "The law can not make something which is actually worth twenty worth only ten."[3] And Father Molina stigmatizes as "irrational, the fixing of equal prices for things of unequal value."[4] Cardinal de Lugo concludes: "When in a whole province, the costs incurred by a seller are greater than the price set, the price is unjust."[5] Ability to pay even living wages may under these circumstances be difficult for the ablest management.

From these considerations it should be clear that, in spite of complicating factors which may at first obscure the issue, ability to pay, taken by itself, is not grounds for a price increase, whether that price be a commodity price or a wage which is integrated with the price system.

There are apparent exceptions to the principle laid down, in which ability to pay may seem to justify a wage increase. There are companies in several industries which have controlled company towns, in which towns they paid low wages and absorbed these low wages by charging high prices at the company store. Such a company might show very high profits which, being ability to pay, would seem to furnish a basis for a wage increase. Actually, in such a case, where the company has isolated a population from all possible alternative sources of earning, it is impossible to know what their profits are, because much of the net revenue shown as profits is simply wages earned which have not been paid. In such circumstances ability to pay may not be a title to a raise, but it may furnish a strong clue to good grounds for wage increase for other reasons. Such a labor group does not have its efforts evaluated in a fair market; the whole purpose of the company town is to prevent that very thing and shut them off from economic alternatives. This may result in ability to pay, but it is the unfair market,

3. Lessius, op. cit. 21:152.
4. Molina, op. cit. 401:10.
5. Lugo, op. cit., 26:53.

not the ability to pay, which is the basis of a just demand for a wage increase.

Another case where ability to pay may seem to be grounds for a wage increase occurs in the case of a monopoly which is based, not on sustained efficient performance, but on some form of collusion, as for example prevailing upon suppliers of a potential competitor to cut off or delay needed materials. An established firm in an industry has been known in the past to do this with some success, using its own trade as a threat to the supplier to coerce his coöperation. Such a firm may show large nominal profits, and may as a matter of fact pay high wages. But actually both the profits and the high wages represent a toll that has been exacted from those who sought in vain to travel that economic highway. Ability to pay may likewise be based on political collusion, which keeps whole areas of labor from thorough organization. At times in these United States, any labor spokesman who appeared in certain quarters found himself in constant trouble of all sorts with the police. The labor force is thus kept inarticulate, and wages are kept low. Such a company might show notable ability to pay; but here again ability to pay is not a title in itself, but an indication of where the trouble lies — in the conditions which prevent a fair common valuation of that type of labor.

While we review such cases, complete honesty requires us to note that the same principle may operate in reverse. A company may make no profits because a tightly closed shop monopolizes the supply of labor, because initiation fees, complex conditions and hereditary membership place a limit to possible output and maintain high prices. Shop practices and job rules, grievance procedures badly administered or work stoppages imprudently invoked may at the same time impose a high wage scale and high unit cost upon an employer and also deprive him of the efficient production he needs to maintain such a wage scale, to say nothing of the privation of the community of good utilization of its resources.

The injection of the ability to pay discussion into our current difficulties is a sober reminder of the needlesss poverty of our economic philosophy. We have been told that we are confronted with a basic, fundamental and inevitable choice which must be made — either free markets or Government regulation. Liberalism, so called, placed its reliance on exchange justice alone; socialism, from the godless, murderous variety of Russian Communism

to the chromium plated National Socialism we are heading for, features distributive justice exclusively. Competition and state regulation are both useful *secondary* principles of economic government. Both are indispensable, but both together are inadequate.

Beside commutative, exchange justice and distributive justice, both essential and requisite but insufficient, social justice is absolutely necessary. Distributive justice administered by the state attempts to regulate economic society from without. Exchange justice operates from within, but it concerns only the actions of individuals. Economic society however is a fact; it exists and is real independently of civil society, though operating within civil society. Man is normally a member of many communities — the family, the town, the province, the club, the church. To each of these communities he owes a debt of social justice, also called by Fr. Pesch, very aptly, contributive justice.[6] These things no one denies. But in economic life we follow a very false and costly doctrine of opposition of interests. The worker recognizes the economic community in his union; the employer recognizes the same in his trade association. But both are blind to the community that exists in their industry as a whole — a real community to which both parties taken singly owe a debt in social, contributive justice, and both parties taken together owe a debt to all other industries which receive their product and whose product they receive.

This is the fact of economic community which is not recognized. The prevalence of fascist thinking causes us to place an exclusive emphasis on *political* communities and their power to regulate and to ignore the economic. All the persons who work at any level in a given industry have something in common that is no less real, and perhaps more important, than the geographical proximity of political communities. Steel-town and Motor-town and Textile-town are communities as actual as Pittsburg, Detroit or Lowell. These communities are in need of order, just as truly as their political municipal counterparts. The principle of contributive social justice furnishes the basis for a genuine government of economic life, for a town-meeting organization of the communities within the economy. Economic life is in need of government just as political life is, not

6. Accurate information concerning Pesch's economics is hard to find in English. Papers such as Harris, "The Scholastic Revival: The Economics of Heinrich Pesch," Journal of Political Economy, February, 1946, make it harder still.

to hamper, repress or regiment, but to create and maintain conditions within which constructive forces can operate.

Some progress has been made in the direction of town-meeting economics by Baseball-town and Movie-town, which have set up some government in their industrial communities. But until Americans fully recover their sense of community in economic life, and revive the sense of social and contributive justice that underlies town-meeting economics, we are without an adequate principle to lead us out of the economic muddle.

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THE PROBLEM OF EXCESSIVE COMMERCIAL BANK EARNINGS

SUMMARY

Changes in composition of commercial bank assets and earnings, 365. — The problem posed by these developments, 368. — Possible action by the banks themselves, 369. — Inadequacy of such measures, 373. — The Economist's proposal, 374. — Proposals for Government action: nationalization, 376; special taxes on banks, 378; new reserve requirements, 380; special Treasury obligations, 382; restricting types of Government securities held, 385. — Necessity of some action, 388.

One of the legacies of the war-time financing program in the United States is a new problem in commercial banking, that of excessive earnings, the main source of which is the interest payments on the Government securities held by commercial banks.[1] This problem has received but scant attention until recently, since commercial bank earnings did not begin to rise spectacularly until 1943 and 1944. The purpose of this article is to present the developments which have led up to the present situation, and to examine critically various proposals for handling the problem. These fall under five headings: private action on the part of the banks to reduce profit margins, nationalization of the banking structure, a special tax on bank earnings, a change in the reserve requirements of commercial banks, and a limitation on the amount of long-term Government securities that banks may hold. Finally, consideration will be given to the view that the problem may not be as important as has been claimed and that the proposed cures are worse than the disease.

The composition of commercial bank assets has changed radically in the past few decades. From 1933 until the outbreak of war, loans made by all commercial banks averaged about 16 billion dollars, or only about half the average of the 'twenties.[2] During

1. The statistics for aggregate bank earnings undoubtedly conceal individual cases where banks, whether for reasons of inefficiency or of war-time shifts in population and business activity, are in an unfavorable earnings position, even at the present time. This does not alter the fact that the excess earnings problem exists for the banking system as a whole. Cf. p. 368, below.

2. Moreover, from 1921 on, so-called "commercial" loans declined considerably relative to loans on real estate and loans on securities. Cf., Carson.

the 'thirties, commercial bank holdings of United States Government obligations rose gradually, but a great part of the decrease in commercial loans was reflected in a large increase in excess reserves, rather than in a shift to other earning assets. Because of heavy reliance upon borrowing from banks to finance war expenditures, however, commercial bank holdings of United States Government obligations increased enormously from 1942 on, while excess reserves were gradually wiped out. Indeed, the Federal Reserve Banks, by adding to their own holdings of Governments, added a large amount to the reserves of commercial banks during the war to help them acquire additional Government securities. By the end of June, 1945, commercial banks held approximately 84 billion dollars of United States Government securities, accounting for almost 75 per cent of their total earning assets. Table I shows the change in composition of bank assets since 1920 and the magnitude of the change since 1941.

The change in bank assets has been accompanied, of course, by a change in the sources of bank earnings. For all member banks of the Federal Reserve System, interest and discount on loans, which amounted to from 62 to 65 per cent of total current earnings from 1927 until 1930, declined steadily during the 'thirties and sharply from 1941 on, amounting to only 30 per cent of total current earnings in 1944. Interest and dividends on securities, on the other hand, contributed only about 20 per cent of total current earnings from 1927 through 1930, averaged 36.5 per cent from 1933 through 1939, and rose to 51.2 per cent in 1944.[3]

The income of commercial banks is derived mainly from the two sources named above, interest and discount on loans and interest and dividends on securities, but in addition income is received in substantial amounts from service charges on demand deposits and on trust department activities, recoveries on loans and securities, and profits from the sale of securities. Bank expenses are comprised mainly of wages and salaries of officers and employees, interest on time deposits, taxes, and losses on loans and on the

William J., "Trends of Principal Earning Assets and their Significance," Journal of the American Statistical Association, Vol. 33 (June, 1938), pp. 311–318 and Willis, J. Brooke, The Functions of the Commercial Banking System (New York, 1943), Chap. 7.

3. As shown in Table I, bank holdings of securities other than United States Government securities have declined, percentagewise, to negligible proportions in recent years.

sale of securities. Pertinent data on earnings of all member banks of the Federal Reserve System for each year since 1927 are given in Table II. Net profits rose steadily during the 'twenties, dropped

TABLE I

LOANS AND INVESTMENTS, ALL COMMERCIAL BANKS

June 30	(BILLIONS OF DOLLARS) Loans and Discounts	U. S. Gov Obligations	Other Securities	Total Loans and Investments	(PER CENT) Loans and Discounts	U S Gov Obligations	Other Securities
1920	28.1	3.7	4.4	36.3	77.4	10.2	12.1
1921	26.1	3.4	4.8	34.2	76.3	9.9	14.0
1922	24.7	4.0	5.3	33.9	72.9	11.8	15.6
1923	26.9	4.7	5.5	37.1	72.5	12.7	14.8
1924	27.6	4.4	6.1	38.1	72.4	11.5	16.0
1925	29.6	4.6	7.0	41.2	71.8	11.2	17.0
1926	31.4	4.6	7.5	43.5	72.2	10.6	17.2
1927	32.2	4.6	8.4	45.1	71.4	10.2	18.6
1928	34.0	5.2	9.3	48.5	70.1	10.7	19.2
1929	35.7	4.9	8.7	49.4	72.3	9.9	17.6
1930	34.5	5.0	9.4	48.9	70.6	10.2	19.2
1931	29.2	6.0	9.7	44.9	65.0	13.4	21.6
1932	21.8	6.2	8.1	36.1	60.4	17.2	22.4
1933	16.3	7.5	6.5	30.4	53.6	24.7	21.4
1934	15.7	10.3	6.7	32.7	48.0	31.5	20.5
1935	14.9	12.7	7.0	34.6	43.1	36.7	20.2
1936	15.6	15.3	7.7	38.5	40.5	39.7	20.0
1937	17.4	14.6	7.5	39.5	44.1	37.0	19.0
1938	16.1	14.0	7.0	37.1	43.4	37.7	18.9
1939	16.4	15.7	7.2	39.4	41.6	39.8	18.3
1940	17.4	16.6	7.2	41.1	42.3	40.4	17.5
1941	20.4	20.1	7.2	47.6	42.9	42.2	15.1
1942	20.3	26.4	7.0	53.6	37.9	49.3	13.0
1943	17.7	52.5	6.5	76.6	23.1	68.5	8.5
1944	21.0	68.4	6.3	95.7	21.9	71.5	6.6
1945	23.7	84.1	6.8	114.5	20.7	73.4	5.9

Source: Board of Governors of the Federal Reserve System, Banking and Monetary Statistics, p. 19 and Federal Reserve Bulletin, November, 1945, p 1124

sharply in 1930 and 1931, gave way to sizable deficits in 1932, 1933, and 1934, and recovered to a surprising degree during the rest of the 'thirties. Most significant, however, are the rise in net profits in 1943 and 1944 and the suggested level of postwar profits. In 1944 net profits after taxes for all member banks rose

to a record high of 649 million dollars.[4] The ratio of net profits to capital accounts for 1944 was 9.7 per cent — higher than that for any preceding year except 1919 and 1920[5] — despite an increase in capital accounts of well over one billion dollars since 1940. For all *insured* banks, net profits after taxes amounted to 751 million dollars in 1944.[6] That earnings were well distributed throughout the banking system is evidenced by the fact that in 1944 one-half of all insured banks had a net profit-to-capital-accounts ratio of over 10 per cent, while only one per cent reported net losses.[7]

From present indications, it appears likely that all commercial banks, member and non-member, may hold about 100 billion dollars of Government securities, when Government expenditures and revenue stabilize at postwar levels. The average interest rate on the Government securities (par value) held by commercial banks on June 30, 1945 was slightly over 1.65 per cent.[8] This means annual interest payments by the Treasury to commercial banks of over 1.6 billion dollars, or about as much as total current earnings in the best years of the 'thirties. Moreover, the statistics for member banks show that since 1935 current expenses, excluding taxes, have increased only slightly more than current earnings from sources other than interest and dividends on securities. Taxes on net income of all member banks increased from 68 million dollars in 1942 (the first year for which taxes on net income are reported separately from other taxes) to 184 million dollars in 1944, due in part to the excess profits tax, the repeal of which is effective as of January 1, 1946. The net result would appear to be a prospective level of net profits after taxes for *all* commercial banks of well over a billion dollars for some time to come.

The problem which presents itself is thus quite clear. The public undoubtedly will not stand by quietly while the commercial

4. Figures on member-bank earnings for the first half of 1945 indicate net profits after taxes for the full year of about 800 million dollars.

5. Federal Reserve Bulletin, May, 1945, p. 429.

6. Federal Deposit Insurance Corporation, Annual Report for the year ended December 31, 1944. On December 30, 1944, there were 13,268 insured commercial banks, of which 6,814 were members of the Federal Reserve System.

7. Ibid., p. 47.

8. Computed from Treasury Bulletin, September, 1945, pp. 53–54. Since a large part of the additions to bank holdings of Government securities after 1943 were purchased at a premium on the open market, the actual yield to the banks would fall somewhat below 1.65 per cent. Cf. Federal Reserve Bulletin, April, 1946, p. 378.

banks are making very large profits, especially since such a large part of the banks' earnings will be coming from its pockets in the form of taxes to meet Government interest payments. Nor would a demand for some sort of action be unwarranted. The Government could easily have kept commercial bank holdings of its obligations at a much lower level by issuing paper money or by selling securities to the Federal Reserve Banks to a much greater extent, while raising reserve requirements correspondingly. Neither of these two methods of financing would have involved any interest cost. That the Government chose instead to allow commercial banks to add to their portfolios was mainly due to psychological reasons in a potentially inflationary situation, but there is little reason for the Government to bear the actual difference in interest cost involved. Indeed, the crux of the problem is just how much the Government should contribute to the income of commercial banks via interest payments or otherwise. We shall return to this problem, merely contending at this point that the present Government contribution is far too large in relation to services rendered.

Another aspect of the problem of excessive commercial bank earnings is related to the war-time excess profits tax. It is clear that the legislative intent underlying the excess profits tax was to prevent corporations from making undue profits by taking advantage of a market guaranteed by huge Government demand. With the end of the war, the excess profits tax was among the first to be repealed. In the case of the commercial banks, it appears that the legislative intent behind this tax will be circumvented, unless some further action is taken, for the enormous increase in bank holdings of Government securities during the war will yield their heaviest earnings to the banks when bank holdings become fairly well stabilized[9] — that is, after the repeal of the tax has become effective. If the commercial banks are to receive the same treatment with regard to war-created profits as other corporations, it is evident that some special provisions must be applied to them.

It is possible, of course, that the commercial banks themselves will see the problem as outlined above and may attempt to do something about it. Possible bank action would take the form of cutting margins by reducing current earnings or increasing expenses. Such action might include the removal of service charges

9. When holdings of securities are being rapidly increased, actual interest payments lag behind the computed yield at any point in time.

TABLE II

MEMBER BANK EARNINGS, 1927–1944

(Dollar Amounts in Millions)

Item	1927	1928	1929	1930	1931	1932	1933	1934	1935
Number of Banks (December 31)	9,034	8,837	8,522	8,052	7,246	6,816	6,011	6,442	6,38
Total Capital Accounts	$5,163	$5,622	$6,360	$6,723	$6,396	$5,660	$4,902	$5,050	5,118
Earnings	**2,014**	**2,194**	**2,399**	**2,158**	**1,841**	**1,554**	**1,237**	**1,244**	**1,207**
Interest and Discount on Loans[1]	1,254	1,374	1,563	1,349	1,073	851	604	540	498
Interest and Dividends on Securities	458	498	473	472	480	458	426	474	467
Service Charges on Deposit Accounts	—	—	—	—	—	—	21	28	36
Trust Department	53	66	78	80	75	65	60	71	78
Other Current Earnings	249	256	285	257	214	180	126	131	128
Expenses	**1,516**	**1,614**	**1,684**	**1,604**	**1,335**	**1,143**	**859**	**849**	**833**
Salaries and Wages	420	440	464	452	413	357	306	327	334
Interest on Time Deposits	406	439	445	451	387	302	232	227	196
Taxes[2]	110	114	112	113	86	67	58	62	64
Other Current Expenses	581	621	663	588	449	417	263	233	239
Net Current Earnings	**498**	**580**	**715**	**554**	**506**	**410**	**378**	**394**	**374**
Recoveries, Profits on Securities, etc.	158	141	137	118	127	113	125	254	376
Losses and Charge-Offs[3]	209	217	295	365	620	778	858	873	538
Net Profits	**447**	**504**	**557**	**307**	**12**	**−255**	**−356**	**−225**	**212**
Ratio of Net Profits to Capital Accounts (Per Cent)	8.7	9.0	8.8	4.6	.2	−4.5	−7	−4.4	4.1

TABLE II

MEMBER BANK EARNINGS, 1927–1944 (*Continued*)
(Dollar Amounts in Millions)

Item	1936	1937	1938	1939	1940	1941	1942	1943	1944
Number of Banks (December 31)	6,376	6,341	6,338	6,362	6,486	6,619	6,679	6,738	6.814
Total Capital Accounts	5,209	$5,327	$5,385	$5,488	$5,597	$5,798	$5,977	$6,304	$6,712
Earnings	**1,271**	**1,321**	**1,274**	**1,296**	**1,328**	**1,417**	**1,487**	**1,650**	**1,874**
Interest and Discount on Loans[1]	513	553	544	560	595	665	649	563	563
Interest and Dividends on Securities	487	481	448	444	431	445	540	766	960
Service Charges on Deposit Accounts	39	45	51	54	59	65	68	76	86
Trust Department	88	96	90	91	92	93	92	96	104
Other Current Earnings	144	146	141	147	146	149	138	149	161
Expenses	**872**	**902**	**890**	**895**	**921**	**988**	**1,036**	**1,121**	**1,276**
Salaries and Wages	352	372	380	388	400	426	461	487	525
Interest on Time Deposits	175	174	171	159	147	140	128	124	144
Taxes[2]	81	86	82	85	100	129	149	200	267
Other Current Expenses	264	270	257	263	274	293	298	310	340
Net Current Earnings	**399**	**419**	**384**	**401**	**402**	**429**	**451**	**529**	**598**
Recoveries, Profits on Securities, etc.	508	256	279	327	303	278	188	312	318
Losses and Charge-Offs[3]	442	338	398	380	356	318	256	284	267
Net Profits	**465**	**337**	**265**	**347**	**349**	**390**	**383**	**557**	**649**
Ratio of Net Profits to Capital Accounts (Per Cent)	8.9	6.3	4.9	6.3	6.2	6.7	6.4	8.8	9.7

[1] Beginning with 1942, includes "service charges and fees on loans," an item previously included in "other current earnings."
[2] Includes taxes on net income as well as all other taxes. Separate figures for taxes on net income are not available for years prior to 1942.
[3] Includes recurring depreciation on real estate.

Sources: Board of Governors of the Federal Reserve System, Banking and Monetary Statistics, pp.262-265, and Federal Reserve Bulletin, May, 1945, p 491.

on demand deposit accounts, an increase in interest payments on time deposit accounts, and an increase in the wages of bank employees.

Commercial banks may well discontinue the practice of levying service charges on demand deposits. There was probably good reason for the imposition of such charges during the 1930's to replace dwindling income from loans and discounts, but bank earnings are now much too healthy to require such a crutch.[1] Present service charges obviously do not reflect the entire cost of handling demand deposit accounts. To do so they would have to be about ten times their present magnitude, and this might have severe effects on the use of the checking account in business.[2] The only justification for the service charges now in use would appear to be that they discourage a plethora of small accounts which might be more economically serviced by the use of cash. Service charges on deposit accounts collected by all member banks amounted to 86 million dollars in 1944, or less than five per cent of total current earnings, so that the discontinuance of such charges now would fall lightly on the banking system as a whole.

While time deposits (excluding inter-bank time deposits) in all member banks increased from 11.2 billion dollars on June 30, 1937 to 19.3 billion dollars on December 30, 1944,[3] interest on such deposits actually declined from 174 million dollars in 1937 to 144 million dollars in 1944, due to a steady decline in the average rate of interest to 0.8 per cent in 1944.[4] It is clearly to the advantage of the banks to maintain low interest rates in order to discourage time deposits in favor of demand deposits on which no interest at all is paid and on which service charges may be levied. It would appear to be in the public interest, however, to increase interest rates on time deposits, for such a move would lessen the inflationary danger of our huge money supply by solidifying a larger portion into time deposits. Assuming that the average interest rate on time deposits were raised to, say, one and one-half per cent (and any higher rate might be hard to justify in the present money market), it would mean an immediate increase in current expenses of member banks of approximately 135 million

1. Commercial banks commonly paid interest on demand deposits until the Banking Act of 1933 prohibited such payments.

2. But cf. p. 374, below.

3. Federal Reserve Bulletin, May, 1945, p. 448

4. Ibid., p. 430.

dollars, and, as a shift from demand to time deposits took place, eventually a somewhat larger increase. But here again the effect on net profits would not be serious.

Another important commercial bank reform would be an increase in the wages of bank employees. The average annual wage of employees of member banks in 1944 was $1,750.[5] While wages of bank employees showed some increase during the war years, the increase was nominal. Further increases in wages will probably take place, but as far as cutting into excessive bank earnings is concerned, such increases are not likely to prove important. If the average annual wage of member bank employees were increased from $1,750 to $2,000, member bank expenses would be increased by about 50 million dollars. The combination of such a wage increase, the removal of service charges on demand deposit accounts, and an increase in the average interest rate on time deposits to one and one-half per cent would thus mean a reduction in member bank earnings of roughly 275 million dollars. For *all* commercial banks, member and non-member, the reduction in earnings would amount to approximately 300 million dollars, and net profits after taxes still might very well amount to approximately one billion dollars, or more than twice the level of any other year save perhaps 1928 and 1929.[6]

We may conclude, then, that while the program outlined above is most desirable from a public viewpoint and would doubtless gain invaluable goodwill for the banks, the prospective level of postwar bank profits is too high to be seriously affected by such measures. Indeed, even if these reforms did reduce commercial bank profits to what might be considered a reasonable level, the question would still remain as to whether the banks should draw their chief source of revenue from Government bonds, i.e. whether the banks should be subsidized, in effect, by the Federal Government. This question must be considered before turning to proposals for Government action with regard to bank earnings.

When a commercial bank creates a deposit by lending to a business man, it is clearly performing a function for which it is entitled to a return in the form of interest payments. The bank

5. Calculated from data on the number of employees other than officers and on aggregate wages paid to such employees. Federal Reserve Bulletin, May, 1945, pp. 491–492.

6. In 1929, net profits after taxes for all *member* banks amounted to 557 million dollars. Profit figures for *all* commercial banks are not available.

grants the business man access to the means of production by substituting its own superior credit for the inferior credit of the borrower. "As referees of uses and users of credit, they [banks] were part of the machinery for allocating scarce means among competing ends."[7] When a commercial bank lends to the Government by purchasing a Government bond, however, it is more difficult to justify the return it gets in the form of interest. The Government already has access to whatever means of production it requires through its tax power and the power of the printing press. Moreover, ". . . in acquiring obligations of the Government in exchange for their own, banks can hardly be said to provide credit of a higher quality than that which they receive."[8]

Let us assume, however, that the commercial banks were deprived of their income from Government securities. Their remaining income would not suffice to cover their costs, and they would have to levy much heavier service charges on demand deposit accounts. It is argued by some that such a step is the only logical outcome of the changes that have taken place in commercial banking. Formerly, the banks used to compete for deposits as a basis for expanding their commercial loans, and the income from the latter was more than sufficient to cover the costs of handling demand deposits. With the decline in commercial loans, the handling of checking accounts has become the most important function of the banks and, it is claimed, should yield the major part of bank income instead of being subsidized by other bank functions.

Professor Whittlesey draws attention to a proposal made by The Economist in 1943, and suggests its possible application to the United States. The Economist suggested that the costs of servicing deposits be shifted to the depositors in accordance with the value of this service to them, that to this income be added the interest on Government securities bought by the banks in the open market, the interest and discount on loans made to private interests, and the income from other bank services, and that the Government contribution on the remaining public debt held by the banks be limited to an amount which would bring total bank earnings

7. Whittlesey, C. R., "Problems of Our Domestic Money and Banking System," American Economic Review, Vol. XXXIV, No. 1, Part 2, (March, 1944), p. 251.

8. Ibid., p. 251.

up to total costs, including a reasonable profit. This final contribution would be very small, perhaps even negative.[9]

In order to be applicable to the situation in this country, The Economist's proposal would have to be substantially modified. In the United Kingdom (and similarly in Canada), the Treasury relied heavily, in its war-time borrowing from the banks, upon special non-marketable securities called Treasury Deposit Receipts. The Treasury determined in advance the amount it wished to raise from the banks and fixed a quota for each bank. It is specifically the Government contribution in the form of interest on these securities that The Economist's plan is designed to control. In the United States, practically all of the Government obligations held by the commercial banks are regular marketable securities, since fixing quotas for special securities for some fourteen thousand banks would have been virtually impossible administratively. The Government could hardly change the rate of return on marketable securities held by the banks without at the same time changing it for all other holders of such securities. It is conceivable, however, that something along the lines of The Economist's plan might be worked out by substituting a special security similar to the British Treasury Deposit Receipts up to a certain percentage of total bank holdings of Governments, when the maturing obligations held by the banks are refunded. The overwhelming difficulty would then be the determination of the Government payments on such securities necessary to give each of our fourteen thousand commercial banks "reasonable profits."

Without going into mechanics at this point, I would propose, in lieu of The Economist's suggestion, the principle that the Government payment to the banks (whether in the form of interest payments on Government securities or otherwise) should cover the costs of handling demand and time deposit accounts, that there should be no service charges levied on demand accounts, and that the banks should be free to add to their earnings as much as they can from commercial loans and other functions from which they are now receiving income. This principle has theoretical justification and would be much more workable in the American institutional set-up. In the first place, the effect of imposing service charges on a scale sufficient to cover the costs of handling checking accounts might well be to discourage their use in favor of a less

9. Ibid., p. 252.

economical form of money, namely currency, since the latter is provided free of charge by the Government. Secondly, a strong case can be made for the Government's bearing all the costs of providing and handling the country's money supply, especially since so much of the increase in deposits was created directly by Government war financing. Further, it should be borne in mind that there would be no overall savings to the economy, were costs covered by service charges instead of Government subsidy, but only a shift in incidence from the general taxpaying public to the owners of bank deposits. Indeed, since a large part of the higher service charges would probably be shifted to the consumers in the form of higher prices, the ultimate incidence might well be much the same. Moreover, since the Government has been paying interest on its obligations held by the banks over a long period of time, it would doubtless be far less disturbing to reduce present interest payments to a point where they would cover the costs of handling deposits than to cut them out entirely and substitute service charges.

An attempt to allocate Government payments to banks so as to cover costs of handling deposit accounts would raise problems of mechanics somewhat similar to those raised by the proposal to make such payments as would yield "reasonable profits," but hardly of the same dimensions. More important, perhaps, is the question whether banks should be limited to what in somebody's opinion is "reasonable profits" or whether it is only that part of the banks' income contributed by the Government that should be limited. The latter course, it seems to me, constitutes far less interference with the private banking system and is, therefore, more desirable.

Turning now to proposals for Government action, one possible course is the nationalization of the country's banking system. The proponents of nationalization can draw strong arguments from our rather unhappy history of private banking. Besides the failure of private competitive banking and of regulation to protect the public interest, they can point to the decline in the importance of the commercial loan and hence of the private banking function, and they can claim that the handling of demand deposit accounts should be a Governmental rather than a private function. They can point to the anomaly of the Government paying large sums of money in the form of interest to the banks in return for bank

credit created by a stroke of the pen, when the Government could have created its own interest-free credit just as easily. With nationalization, the problem of excessive bank earnings might well disappear, though this would depend on the terms of the transformation. If Government securities were given in exchange for the capital stock of the banks in such amount that the interest yield on the Government securities equaled the present net income of the banking system, obviously the present situation with respect to bank earnings would be frozen and not much would be gained. So far as the excessive earnings problem is concerned, the basis of the exchange necessary to bring about nationalization would be the important thing.

Although there is a certain amount of validity in the arguments for nationalization, it is neither necessary nor desirable to resort to such a step in order to cure the banking system of its ills. Certainly we have made considerable progress in commercial bank reform over the past few decades. What remains as a weak link, as an inevitable result of the multiplicity of small banks, is the caliber of management. Branch banking would probably be a better step towards correcting this than nationalization, with the unwieldy bureaucracy it would entail. More important is the fact that while the private lending function of commercial banks has diminished greatly in relative importance, it still represents a sizable proportion of banking activity. There is every reason to believe that this function can be better carried out under a free enterprise system, where the local banker presumably is well acquainted with, and attuned to, the needs of his community, than under a nationalized system. Moreover, it is not unreasonable to expect an expansion of commercial loans at some time in the future. It is undeniable that there was a trend away from this type of business financing as far back as the 'twenties, but it is equally true that the huge increase in our money supply and, consequently, in business liquidity caused by Government deficits in the 'thirties and in the war years made it possible for considerable business expansion to take place without resort to bank borrowing. Once our economy grows up to its expanded money supply, it is at least possible that part of further business expansion would be financed through the banks. Finally, it is clear that the political feasibility of nationalization at the present time is very slight. Warning must be given, however, that the longer

the problem of excessive bank earnings, coming mainly from the public purse, is left untouched, the stronger will become the support for such a measure.

A second course of action the Government might follow is the imposition of some sort of special tax on banks, which would both reduce their net earnings and recapture for the Government a substantial portion of the interest paid to the banks on the Government securities held in bank portfolios. The excess profits tax has been singled out as the most logical for achieving the purpose of reducing commercial bank earnings to a reasonable figure. As pointed out above, there is a certain rationale in maintaining the excess profits tax on banks after it has been repealed for other businesses, because of the differences in the timing in which profits arising out of war conditions occurred. If the banks maintain their portfolios of Government securities acquired during the war, their war-time income will be perpetuated, while their war-time financing services will have long ceased. Besides lopping off such war-created income, an excess profits tax might have the further salutary effect of causing the banks to hold their Government securities in the form of short-terms, thus removing a potential source of instability from the bond market.[1]

A peace-time excess profits tax on commercial banks would encounter many difficulties. There are the problems of what constitutes a "normal" rate of profit for banks and what percentage of "excess" profits should be taxed away. During the war we defined normal profits as some sort of an average of prewar profits or as a certain percentage of capital, and taxed all excess profits of corporations at fixed rates. If the excess profits tax is retained in peace-time solely for commercial banks, some concept of normal banking profits must be worked out. In addition, serious objection is made to the excess profits tax on the ground that it is an undifferentiated tax, that is, that it falls equally on all earnings and not simply on earnings from Government securities. Such a tax might well discourage effective organization of the banks, since there would be little incentive for bankers to compete for the best loans, to promote new enterprise, or to strive for improvements in

1. Cf. Hansen, Alvin H., "Stability and Expansion," Financing American Prosperity, The Twentieth Century Fund (New York), 1945, p. 255. It should be noted that the existence of the excess profits tax did not deter the shifting into long-terms during the war, but many banks had not yet reached profits levels of income.

efficiency, if the income received from interest on Government securities were sufficient to put them into the excess profits bracket. Proponents of the excess profits tax would meet this objection by setting the rate at which the tax would be levied at a level where incentive for effective management would not be harmed. In practice, however, it might be somewhat difficult to arrive at a rate which would be sufficiently low to preserve incentives and yet sufficiently high to yield the desired results in the way of reduced bank profits.

To meet the main objection to the excess profits tax, namely, that it is undifferentiated, it has been suggested that some other tax might be substituted, e.g. an excise tax, which would cut into only that part of earnings arising from interest on Government securities. Such a tax would give the desired result of decreasing bank earnings, and specifically earnings derived from the public purse, while at the same time maintaining all incentives for competitive private banking business. Here again, however, we have disposed of one difficulty only to run into a number of others. Conceivably, a tax specifically on interest from Government securities might take either of two forms: a flat rate on all such interest or a tax which would reduce the yield on Government securities held by the banks to a given rate. The former tax might well have the effect of strengthening the tendency of the banks to hold the higher-interest, long-term securities which has been evident of late, while the latter is a rather clumsy method of forcing the banks to accept what would amount to a uniform security at a low interest rate. Much more important, the imposition of either type of tax would result in a severe psychological shock in the Government bond market; for not only would the banks shift their holdings about considerably, but individuals and institutional holders of Government securities might also become caught in a selling panic due to the fear that similar taxes might be imposed upon them.[2] Moreover, a tax specifically on the interest from Government securities would constitute a breach of the contract entered into when the banks bought their securities, and the Government's credit would consequently suffer irreparable harm. If taxation is to be used to attack the problem of bank earnings, an undifferentiated

2. On the other hand, it might be argued that the psychological effects of a tax, which is a familiar enough instrument, would be small relative to that of more novel schemes, such as those discussed later in the paper.

the problem of excessive bank earnings, coming mainly from the public purse, is left untouched, the stronger will become the support for such a measure.

A second course of action the Government might follow is the imposition of some sort of special tax on banks, which would both reduce their net earnings and recapture for the Government a substantial portion of the interest paid to the banks on the Government securities held in bank portfolios. The excess profits tax has been singled out as the most logical for achieving the purpose of reducing commercial bank earnings to a reasonable figure. As pointed out above, there is a certain rationale in maintaining the excess profits tax on banks after it has been repealed for other businesses, because of the differences in the timing in which profits arising out of war conditions occurred. If the banks maintain their portfolios of Government securities acquired during the war, their war-time income will be perpetuated, while their war-time financing services will have long ceased. Besides lopping off such war-created income, an excess profits tax might have the further salutary effect of causing the banks to hold their Government securities in the form of short-terms, thus removing a potential source of instability from the bond market.[1]

A peace-time excess profits tax on commercial banks would encounter many difficulties. There are the problems of what constitutes a "normal" rate of profit for banks and what percentage of "excess" profits should be taxed away. During the war we defined normal profits as some sort of an average of prewar profits or as a certain percentage of capital, and taxed all excess profits of corporations at fixed rates. If the excess profits tax is retained in peace-time solely for commercial banks, some concept of normal banking profits must be worked out. In addition, serious objection is made to the excess profits tax on the ground that it is an undifferentiated tax, that is, that it falls equally on all earnings and not simply on earnings from Government securities. Such a tax might well discourage effective organization of the banks, since there would be little incentive for bankers to compete for the best loans, to promote new enterprise, or to strive for improvements in

1. Cf. Hansen, Alvin H., "Stability and Expansion," Financing American Prosperity, The Twentieth Century Fund (New York), 1945, p. 255. It should be noted that the existence of the excess profits tax did not deter the shifting into long-terms during the war, but many banks had not yet reached [illegible] levels of income.

efficiency, if the income received from interest on Government securities were sufficient to put them into the excess profits bracket. Proponents of the excess profits tax would meet this objection by setting the rate at which the tax would be levied at a level where incentive for effective management would not be harmed. In practice, however, it might be somewhat difficult to arrive at a rate which would be sufficiently low to preserve incentives and yet sufficiently high to yield the desired results in the way of reduced bank profits.

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tax, with all its difficulties, would be preferable. With an undifferentiated tax, it would be impossible to apply the principle that Government payments to the banks should be limited to an amount sufficient to cover the costs of handling deposits. An approximation to this principle might be achieved in the aggregate, however, by adjusting the tax so as to bring in an amount of revenue which, when subtracted from total Government interest payments on Government securities held by the banks, would leave the desired amount.

Next, there is a line of approach embodying a whole family of schemes, all of which have in common the fact that they alter reserve requirements. Only two of these schemes will be discussed here. Under the first, the Federal Reserve Banks would absorb all or part of the commercial banks' holdings of Government securities; under the second, the commercial banks would exchange part of their Government portfolios for a new type of Government security to be used as a reserve against demand deposits.

Under the first plan, let us assume first that the Federal Reserve Banks purchase all of the Government securities held by the commercial banks, crediting their reserve balances accordingly, and raise the reserve requirements to freeze the reserves so built up. What this would amount to would be the imposition of the 100 per cent reserve plan, since the addition of Government securities now held by the banks to their present cash reserves would bring reserves up to approximately the same figure as total demand deposits, including Government war loan deposits which are, at present, exempt from reserve requirements. Such a scheme would drastically reduce the earnings of commercial banks and would mean a large saving to the Government, since interest paid to the Federal Reserve Banks could be made to revert, for the most part, to the Treasury.

Deprived of their income from Government securities, the banks would be limited largely to income from loans and investments. There would be no opportunity to add to the volume of loans (even assuming a demand for them), or to purchase non-Government securities, without increases in bank capital.[3] In

3. There would still be the possibility of expansion of loans and investments through a shift from demand to time deposits, against which lower reserve requirements would still apply. If reserve requirements for increases in time deposits over present levels were increased sharply, this possibility would be minimized.

fact, the amount of loans and investments outstanding would have to decline; for while aggregate bank holdings of Government securities plus present aggregate cash reserves would roughly equal aggregate demand deposits, many individual banks which do not hold sufficient Government securities would have to call loans or sell non-Government investments in order to build up the necessary reserves. Meanwhile, to cover costs, the banks would be forced to rely heavily on service charges on demand deposit accounts, or, alternatively, the Government could meet part of banking costs by paying a low rate of interest on the required reserves.

By paying interest on required reserves, the principle that the Government contribution to bank income should cover the costs of handling deposit accounts could be adhered to. Nevertheless, I would reject the 100 per cent reserve proposal, because it limits so severely the lending function of the banks. If banks are to be restricted to making loans solely out of capital, then the function of handling the money supply might as well be separated and nationalized.

Let us assume, now, that required reserves were set at some figure substantially below 100 per cent, and, therefore, that the commercial banks had to sell only a part of their present portfolios of Governments to the Federal Reserve Banks. One great improvement over the previous plan would be that the lending capacity of the commercial banks would not be so sharply curtailed. Moreover, the transition to the higher reserve requirements would not force as much liquidation of commercial loans and non-Government investments as would the transition to a 100 per cent reserve. Furthermore, while adoption of the 100 per cent reserve plan implies no future change in reserve requirements, the high-reserve plan carries no such implication, so that there would be no deterrent to lowering reserve requirements, should such a move be warranted by future developments. It would not be so easy to conform to our principle regarding the Government contribution to bank income under the high-reserve plan; but it would appear possible to approximate the principle by setting the reserve requirement at a point where the banks would be left with an amount of Government securities, the interest on which would cover costs of servicing deposit accounts.

While the high-reserve plan is thus preferable to the 100 per

cent reserve proposal, it is not without difficulties. Under a high-reserve plan there is a conflict between our two aims of maintaining the banks' capacity to lend to private enterprise and of reducing bank income from Government securities. For example, if it were decided that bank income from Government securities should be halved and, in order to effect this, the Federal Reserve Banks bought half of the Government securities held by the banks,[4] reserves would shoot up to approximately 75 per cent of net demand deposits (somewhat less than 60 per cent of net demand deposits plus Government war loan deposits). On the other hand, if present reserve requirements were raised to, say, 50 per cent, the banks would have to sell less than 30 per cent of their Government securities. Under both the 100 per cent reserve and the high-reserve plans, the question arises as to the effect on the Government bond market of heavy bank selling of their holdings, even though the Federal Reserve Banks would be purchasing the securities offered for sale.

We come now to a scheme which was first proposed by Lawrence Seltzer in 1940 as a measure to deal with the problem of excess reserves, but which has since been revised by its author to meet more current banking problems.[5] The proposal is that the bulk of present commercial bank holdings of Governments be exchanged for a special series of Treasury obligations, which would be held as a required reserve, in addition to present cash reserves, against demand deposits in a ratio to be determined, from time to time, by the Federal Reserve System within limits established by Congress. Seltzer suggests a reserve ratio for the present of about 65 per cent against demand deposits and 50 per cent against time deposits. The new reserve securities would be non-marketable, bearing interest at a low rate, callable for exchange into like securities bearing higher or lower interest or for final redemption at any time upon four months' notice, payable on demand, and without a final maturity date. After the initial exchange, banks would

4. Actually, the Federal Reserve Banks would probably have to buy more than half of the banks' securities in order to cut their interest income in half, since the banks would probably surrender their low-interest short-terms first.

5. Seltzer, Lawrence H., "The Problem of Our Excessive Banking Reserves," Journal of the American Statistical Association, Vol. 35 (March, 1940), pp. 24–36, and "The Changed Environment of Monetary-Banking Policy," a paper read before a meeting of the American Economic Association, January, 1946.

be free to buy reserve certificates from the Treasury to meet reserve requirements, but excess reserve certificates would have to be turned in for redemption. Banks with deposits of less than one million dollars would be exempt from the new reserve requirement, but all other commercial banks, including non-member, non-insured banks, would be subject to it.

Seltzer lists six main advantages for his proposal. First, a large part of the marketable Government securities outstanding would be transformed into perpetual debt bearing a low interest rate, so that the Treasury would benefit from a decrease in interest cost on the public debt and from the elimination of the necessity for refunding operations. Second, Reserve System control over direct bank lending would be largely restored, because the banks would be left with a much smaller amount of marketable Government securities which could be liquidated to acquire funds for loan expansion. Third, commercial banks would be left with sufficient Government securities to perform their function of maintaining an orderly bond market under ordinary conditions, but with not enough to intensify fluctuations on the market, should the Reserve Banks adopt a restrictive credit policy. Fourth, the low rate of interest on the reserve certificates would reduce bank earnings to reasonable figures. Fifth, the non-marketability and redemption-at-par provisions would protect the banks from any principal loss on their holdings, and would amount to an increase in capital so far as safety of deposits was concerned. Finally, debt management and credit control could be harmonized by appropriate shifts in reserve certificate requirements.

In the revised version of his plan, Seltzer suggests the Treasury as the depository agency for the new reserves, rather than the Federal Reserve Banks or the Federal Deposit Insurance Corporation, in order that banks not under the jurisdiction of these latter organizations might also be made subject to the new reserve requirements. While it is desirable that non-member, non-insured banks be included under any scheme, it is not apparent how, by making the Treasury the depositary for the new reserves, such banks can be brought under the legislative control of Congress. Indeed, a difficulty in the way of the 100 per cent reserve and the high-reserve plans hitherto not mentioned is that any change which is felt to be onerous by the banks may cause them to leave the Federal Reserve System and the FDIC. If there is no way to

bring non-member, non-insured banks under the Seltzer proposal, then the two reserves, cash and certificate, against deposits might better be handled by the same agency.

Seltzer exempts from the new reserve requirement all banks with demand deposits of less than one million dollars, "to exclude the numerous small banks that might find the requirement of Certificate Reserves a hardship both to themselves and to their customers, and that collectively own only a tiny fraction of the outstanding Governments." But with thousands of commercial banks excluded from the reserve certificate requirement, shifts in deposits between such banks and the larger banks would create difficulties much more severe than were formerly experienced when shifts in deposits occurred among country, reserve city, and central reserve city banks with their different cash reserve requirements. Despite the difficulties caused the smaller banks by the new reserve certificate requirement, it would be preferable to keep them within the scheme.

Seltzer points out that under his proposal the present cash reserve requirements would continue to govern credit expansion, but a large part (65 per cent under the suggested reserve requirement) of such expansion would have to take the form of reserve certificates. This would mean that if the Federal Reserve System wanted to encourage private credit expansion, it would have to provide reserves in a ratio of less than one to two, instead of one to five as under present requirements. Moreover, since the funds obtained by selling reserve certificates to the banks would presumably be used to retire other Government securities, any large credit expansion might see the banks running out of their marketable securities fairly quickly, or else bank holdings of reserve certificates would replace non-bank holdings of Government debt. The desirability of the latter alternative is open to serious question. On the other hand, however, it may be pointed out that the probability of any substantial increase in commercial loans at the present is not very great, and that if such an expansion develops in the future, it could readily be handled by reducing reserve certificate requirements.

The application of our principle that the Government contribution to bank income should be limited to an amount that covers costs of handling deposit accounts would be difficult under the Seltzer proposal. As in the case of the high-reserve plan, the diffi-

culty arises from the fact that the banks would continue to hold a substantial amount of marketable Government securities. Under the Seltzer plan, this could be taken care of by requiring the banks to hold all their Governments in the form of the special reserve certificates, but such a requirement would destroy the advantage of having the banks "perform their traditional and valuable services in the distribution of new and refunding Treasury securities. . . ."[6] Even though banks continued to hold some marketable Government securities, however, the interest rate on the reserve certificates could be set low enough so that the principle would be approximated.

Finally, there is the proposal that bank holdings of Government securities be limited largely to short-term, low-interest issues. In the United States, a minor step in this direction was taken during the war by prohibiting commercial banks from purchasing the longest-term bonds (callable in twenty-one years and maturing in twenty-six years) until ten years after the date of issue. In Canada, however, this policy has been carried much further. A Canadian Government press release of February 27, 1946 announced an agreement between the Government and the chartered banks with respect to chartered bank holdings of Canadian Government securities. The chartered banks agreed to limit their holdings of Dominion Government domestic bonds to 90 per cent of the amount of their Canadian savings deposits.[7] In addition, the banks agreed that the earnings from their Government bonds should cover their costs of handling savings deposits plus a moderate profit margin. This means that the banks will probably hold more medium-term bonds than long-term bonds. As far as the banks' remaining holdings of Governments are concerned, they will consist solely of short-term Treasury bills and Deposit Certificates.[8] The press release also announced a reduction in the rate of interest on Deposit Certificates to ⅝ of 1 per cent from the former ¾ of 1 per cent. To quote from the press release, "Financing arrangements between the Dominion Government and the chartered banks have been on the basis of maintaining rates of remu-

6. Seltzer, op. cit.

7. Canadian savings deposits bear interest at the rate of one and a half per cent per annum on the minimum quarterly balance.

8. Canadian Deposit Certificates are similar to the British Treasury Deposit Receipts discussed above.

neration to banks which would be sufficient to cover their costs but which would leave only a reasonable margin for profit."

Besides adhering to the principle that Government payments to banks should cover costs of handling deposits, this measure has the great advantage that it is directed solely towards the problem of excessive bank earnings and has no important implications for credit control. Heretofore, the problem of bank earnings has been discussed mainly as a troublesome minor issue within the broader problem of monetary reform,[9] and it is not very likely that some of the proposals we have discussed above, e.g. the 100 per cent reserve plan, would be adopted simply because of their effect on bank earnings. The question arises, however, whether the program adopted in Canada can be followed successfully in the United States. In Canada, as in Great Britain, the system of branch banking means that there are but a few banks to deal with, and coöperation between the Government and the banks can become a working reality. With some fourteen thousand commercial banks in this country, coöperation between the Government and the banks becomes an altogether different problem.

Let us suppose, for the moment, that the necessary coöperation could be obtained, and go on to see how the plan could be implemented. First, however, it is necessary to bring out some differences between the banking situation in the United States and that in Canada. As stated early in the paper, the United States Treasury did not use any security like the Canadian Deposit Certificate or the British Treasury Deposit Receipt in its war financing. It would be necessary, then, for the banks to exchange part of their holdings of Government bonds for some such security, or, perhaps, for additional amounts of short-term securities they already hold, i.e. Treasury bills and Certificates of Indebtedness. Secondly, time deposits form a much larger proportion of total deposits in the Canadian chartered banks than in the United States commercial banks, so that limiting bank holdings of Government bonds to 90 per cent of time deposits would mean that commercial banks in the United States would not be able to hold as large a percentage of their total Governments in the form of bonds as the Canadian banks. But since time deposits involve consider-

9. Cf., for example, articles by Whittlesey and Seltzer, op. cit., and articles by Roland I. Robinson and Henry C. Wallich in Postwar Economic Studies, No. 3, Board of Governors of the Federal Reserve System.

ably more bank expense than demand deposits, because of the interest paid on the former, this does not constitute an objection to the plan.

For purposes of illustration, we shall assume that commercial banks in the United States reduce their holdings of Government notes and bonds to 90 per cent of their time deposits, substituting Treasury bills and Certificates of Indebtedness. As of June 30, 1945, time deposits in all insured commercial banks amounted to almost 27 billion dollars, while holdings of Government notes and bonds by these same banks amounted to more than 62 billion dollars.[1] Thus, the banks would have to exchange almost 40 billion dollars worth of notes and bonds for Treasury bills and Certificates of Indebtedness. It is impossible to estimate with any accuracy the effect this would have on bank income from Government securities, but a rough calculation indicates a decrease of between 400 and 500 million dollars. If, as in Canada, the banks agreed that the interest on their remaining Government notes and bonds should merely leave a small margin of profit above costs of handling savings accounts, then it might still be necessary either to raise the interest rate on time deposits or else to have the banks shorten the maturities of their remaining Government note and bond portfolio.

The huge shift in bank holdings from long-terms to short-terms that would be necessary if the Canadian plan were to be adopted in this country, poses a serious transitional problem. The Federal Reserve Banks hold a substantial quantity of Treasury bills and Certificates of Deposit, but not nearly enough to handle the exchange. In order to minimize the disturbance in the market for Government securities, it might be preferable for the banks to turn in their excess notes and bonds to the Treasury in return for a new non-marketable security. The interest rate on this security would be adjusted so that the income on bank holdings plus the income on bank holdings of short-terms would cover the costs of handling demand deposits. In any case, considerable Federal Reserve System support of the market would doubtless be needed during the exchange.

As stressed above, however, the primary problem raised by this proposal is that of coöperation between the Government and the banks, and it is difficult to see how this obstacle can be hurdled

1. Federal Reserve Bulletin, March, 1946, pp. 306–307.

in the United States. However, it would appear to be to the advantage of the banks to agree on some such proposal in order to forestall more drastic mandatory measures.

Now that the more important proposals for dealing with the problem of excessive bank earnings have been discussed, there remains to be considered the view that the problem is not so important, and the proposals for dealing with it not so free from defects and difficulties, as to warrant their adoption. This view takes its strength largely from two factors. The first is that while bank earnings have been increasing rather rapidly, a conservative dividend policy has been followed, so that the largest part of net profits in recent years has been added to capital accounts.[2] So long as this practice continues, it is argued, net profits of commercial banks are largely a bookkeeping transaction without social or welfare implications. Secondly, it is pointed out that a large part of the income of commercial banks in the past few years has arisen from the trading profits realized on securities due to the steady decline in the interest rate. If interest rates were stabilized, this source of income would be largely eliminated, and thus the net income of the banks would decline to defensible proportions. Table II shows that recoveries on loans and profits on securities amounted to 318 million dollars in 1944, and of this amount 199 million was due to recoveries and profits on securities.[3]

The fact that a conservative dividend policy has been followed does not alter the excess earnings problem. An examination of the quotations for bank stocks listed in the New York Times shows that the average price of some forty bank stocks increased by more than fifty per cent from the end of June, 1941, to the end of June, 1945. Bank shareholders probably prefer to take their income via capital gains rather than through dividends, because of the preferential treatment accorded capital gains under the individual income tax. Furthermore, additions to capital accounts have little meaning at the present time, as far as safety of deposits is concerned. The ratio of capital accounts to demand deposits has lost

2. Cash dividends declared by member banks since 1939 have been as follows:

1939	$207 million	1942	$203 million
1940	210 million	1943	208 million
1941	211 million	1944	226 million

Federal Reserve Bulletin, May, 1945, p. 431.

3. Ibid., p. 491.

whatever significance it might have had, because the liquidity of banks has increased enormously by virtue of their large holdings of Government securities, the value of which is practically guaranteed by Federal Reserve System support.[4]

Stabilization of the rate of interest (even assuming such a policy desirable or likely) resulting in a sharp drop in trading profits would not satisfactorily solve the problem. We have noted that the figure for recoveries and profits on securities amounted to 199 million dollars for all member banks in 1944. Even assuming that this income was entirely wiped out, bank profits would still be very high. "Reasonableness" in bank earnings might be approached, if such a reduction in trading profits were accompanied by the suggested 300 million dollar reduction in net earnings by eliminating service charges, increasing the interest rate on time deposits, and increasing wages of bank employees. There is, however, no certainty that the banks will carry out such a program. Moreover, even if they did, the interest paid on the Government securities held by the banks would still bear no relation to any rational principle.

We conclude, then, that the problem of excessive commercial bank earnings is a very real one and not likely to be solved if left to "work itself out." Some steps towards the solution can be taken by the banks on their own initiative, but any satisfactory attack on the problem will require Governmental action. In appraising the various proposals which have been discussed in this paper, the main criterion has been their efficacy in solving the excess earnings problem with a minimum of disturbance to the existing banking structure. Something along the lines of the Canadian plan seems to offer the most promising solution.

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4. Cf. Robinson, Roland I., "The Capital-Deposit Ratio in Banking Supervision," The Journal of Political Economy, Vol. XLIX, No. 1 (February, 1941).

THE SUPPLY OF LABOR TO THE FIRM

SUMMARY

Reasons for questioning the continuous forward-rising supply curve, 390. — Alternative shapes of the supply curve under full employment, 392. — The supply curve with unemployment and with employers hiring only from the unemployed, 398. — Effects of introducing differences in the individual efficiency of labor and occupational specialization, 406. — Conclusion, 410.

The supply of labor to the firm was implicitly regarded by neoclassical writers as infinitely elastic at a prevailing wage rate determined under conditions of pure competition in the labor market. Indeed, until recent years, the concept of a horizontal labor supply curve was not questioned even by those who in other respects were critics of accepted wage theory. The critics tended to argue that, because of peculiarities in the labor market, the level of wages in a particular firm would be influenced by the relative bargaining strength of employer and workers. But they do not appear to have challenged the notion that, once the rate of wages was established, the employer would be able to employ any quantity of labor he chose, i.e. that supply was infinitely elastic at the "bargained" rate.

The view that labor-market imperfections result in a forward-rising supply curve of labor to the firm appears to have been first elaborated by Mrs. Robinson.[1] This conclusion has made its way rapidly into the textbooks and seems well on the way to being generally accepted as a substitute for the horizontal supply curve of earlier days.[2] This is doubtless due in part to the rapid and wide-

1. "The supply of labor to an individual firm might be limited for the same sort of reasons. For instance, there may be a certain number of workers in the immediate neighborhood and to attract those from further afield it may be necessary to pay a wage equal to what they can earn at home plus their fares to and fro; or there may be workers attached to the firm by preference or custom and to attract others it may be necessary to pay a higher wage. Or ignorance may prevent workers from moving from one firm to another in response to differences in the wages offered by the different firms." Joan Robinson, The Economics of Imperfect Competition (London, 1934), p. 296. The discussion is accompanied by the familiar diagram showing rising average cost and marginal cost curves for labor.

2. See, for example, the following: "A considerable reduction in the wage-rate offered by the particular employer would cause some persons to move into other jobs in the same district or to move to similar firms in other dis-

spread acceptance of the theory of monopolistic competition. If imperfections in product markets are associated with a sloped demand curve for the firm, it seems reasonable to suppose that imperfections in factor markets result in a similar departure from horizontality.

Doubts arise, however, when one examines the specific explanations offered for the sloped supply curve of labor. Some writers attempt to explain why it is necessary to *raise* wages in order to attract more labor, others why an employer can *reduce* wages without losing his entire labor force. In labor markets as in commodity markets, however, it makes considerable difference whether one is looking up or down the supply curve. An explanation which works well in one direction may, when reversed, produce a sharp "kink" in the curve.

Even as regards movement in one direction — say, up the supply curve — several quite different explanations are offered. The sloped supply curve is sometimes made to depend on the number or size of firms in the market. It is said that an employer who is the only buyer of a certain type of labor in an area will have a sloped supply curve, or that a "large" firm will have a sloped supply curve, whereas a "small" firm would not. Other explanations run entirely in terms of employee behavior — workers are ignorant of the wage rates prevailing in other plants, or hesitate to change jobs because of a desire for security, or are attached to a particular firm by "preference or custom." Again, it is said that higher wages are necessary to cover the cost to labor of moving from other areas.

These differing explanations, while each may apply to a particular situation, cannot all apply at the same time. The various writers have obviously had in mind several different labor market situations. The first section of this article, therefore, distinguishes the main sets of conditions under which the supply of labor to the

tricts. But the employer would not lose the whole of his labor supply. Some of his employees might find it too costly to move into other districts or other trades, or might not realize the opportunities of earning higher wages in other occupations or districts. Similarly, he might have to offer a considerably higher wage in order to attract more labor, because the wage offered must be raised enough to make up for the cost to labor of transferring itself from other less well-paid districts or other less well-paid occupations in the same district." J. E. Meade and C. F. Hitch, An Introduction to Economic Analysis and Policy (New York, 1938), p. 153. See also Richard A. Lester, Economics of Labor (New York, 1941), pp. 108–109.

firm might be less than perfectly elastic, and inquires in each case whether the assumed conditions would produce the continuous forward-rising supply curve currently fashionable, or some other type of curve. The remaining sections explore the effect on the labor supply function of removing some of the customary assumptions of wage theory, in particular the assumption of full employment.

I

"Labor market" will be used here in the ordinary sense of a manufacturing and trading center plus the agricultural hinterland directly tributary to it. The term "wage" will be defined to include all of the conditions affecting the attractiveness of a job, including the basic time-rate or average piece-rate earnings, monetary compensation not included in the base rate — overtime earnings, shift premiums, bonuses, pension benefits, free medical care, sick leave, paid vacations, and the like, together with the social and physical conditions of work. Two plants which are equally attractive to a prospective employee[3] will thus by definition be paying equal wages. The alternative and more conventional approach would be to define the wage as the base rate and to assume either that inducements other than the base rate are equal in all firms under consideration or else that they are of no importance. Since it is obvious that either assumption would be highly unrealistic, it seems better to adopt the definition proposed here and to face squarely the consequent problems of measurement.[4]

It will be assumed throughout this section that there is no involuntary unemployment; that all workers are of equal ability or, alternatively, that labor is measured in efficiency units; and that all jobs are unskilled and all workers therefore interchangeable. The consequences of removing the assumption of full employment will be considered in Section II, while Section III will

3. Complications resulting from the fact that different workers will have different preferences concerning conditions of work will be considered below.

4. Application of this definition would require that all attributes of the job other than base rates of pay be reduced to their base-rate equivalent in the worker's mind. This is an intriguing possibility, and it is a merit of the present definition that it pushes one to experiment in this direction. A definition of wages in terms of base rates alone glosses over the difficulties in the problem but does not eliminate them.

deal with the assumptions of equal efficiency and interchangeability of labor.

A horizontal supply curve of labor to the firm is obtained by adding to these assumptions two others: (*a*) that all workers are fully informed concerning the wage, as defined above, offered by each firm in the area, and are willing to change jobs for a very small gain in wages; (*b*) that the firm in question is "small" — that its withdrawal of labor from other firms does not appreciably raise the marginal revenue product of labor in those firms. The object of this section is to examine the principal ways in which these assumptions may be modified, and the type of supply curve which will result in each case. The discussion will be conducted in terms of the relation between wage increases and increases in labor supply, i.e. looking *up* the supply curve, and it will be assumed that we are starting in each case from a wage equal to that of all other firms in the area. The extent to which this reasoning can be reversed to explain the consequences of wage cuts will be examined at the end of the section.

(*a*) The assumption that workers are fully informed and completely responsive to wage differences may be altered in three main ways. It may be assumed that workers are ignorant of the wages paid by other employers, or that they are perfectly informed concerning wages but are deterred from changing jobs by considerations of security, or that they are perfectly informed concerning wages but differ in their evaluation of the non-base-rate components of the wage. These possibilities will be considered in turn.

Complete ignorance by all workers of the wage rates paid by other employers would result in a completely inelastic supply curve of labor to each firm. No possible increase in wages would attract any additional labor, since no one would ever hear of it. If part of the workers in the market were informed concerning wage rates while the remainder were not, the supply curve of each firm would have a horizontal section equal in length to the number of "informed" workers and would then become vertical.[5] A gradually rising supply curve could occur only if there were a

5. Looking *down* the supply curve, there would also be a horizontal section followed by a vertical section. A very small reduction in wages would cause all of the informed workers employed by the firm to leave it, but further reductions would not cause any of the uninformed to leave.

functional relation between a firm's wage level and workers' information concerning it, i.e. if the workers' ignorance could be dispelled by mere increases in the wage offered *and by nothing else*. For if the workers' ignorance could be dispelled by the passage of time, the rising supply curve would be significant only for short periods and could be flattened out more and more by allowing successively longer periods for adjustment. Or if it could be dispelled completely by a lump-sum expenditure on advertising and other labor recruiting devices, the result would be a step-curve with one rather modest step. Thus, while a continuously rising labor supply curve might conceivably result from ignorance alone, this ignorance would have to be of a very special sort hardly likely to be significant in practice.

The worker may be deterred from seeking a new job at a higher wage rate by uncertainty concerning his chance of securing and retaining it. He may be viewed as weighing his prospective future earnings in his present job, discounted to their present value and further reduced to allow for anticipated unemployment, against a similar calculation of prospective earnings in the new job. Workers will differ in their judgment of the wage rate at which it is just worth while to change jobs, because they will differ as regards the length of the future period taken into account, the rate at which future earnings are discounted, their actual chances of remaining steadily at work in their present job, their estimate of their actual chances, and their estimate of the probable continuity of employment in the new job. As the wage offered in the new job rises, however, it will exceed the "break-even point" for more and more workers. The result is a rising supply curve.

This method of deriving a sloped supply curve, however, involves a departure from the assumption of continuous full employment. Workers will not be seriously influenced by fear of unemployment unless the economy is actually subject to unemployment on a considerable scale. But if unemployment exists, the labor supply curve of the firm may be horizontal over a distance equal to the number of unemployed in the area. This point is stated more precisely in Section II below.

"Wages" was defined above to include the base rate of pay, plus "fringe" types of compensation, plus the money equivalent of especially pleasant or unpleasant working conditions. But this yields an unambiguous definition of "equal wages" and a hori-

zontal labor supply curve to each firm only if all workers in the labor market attach the same money value to specified working conditions and "fringe" compensations. If this is not so, it is no longer possible to say what constitutes equality of wages in the market, since what appears equal to one man may well appear unequal to another. One can say only that, at a specified wage, a firm will attract those workers who value its wage more highly than that offered by any other firm. As the wage offered is increased, the number of such workers will also increase. A sloped labor supply curve may thus be attributed to differences in workers' tastes in choosing jobs, in precisely the same way that a sloped demand curve for a commodity arises from differences in consumers' tastes. In both cases the curve becomes horizontal if differences in individual preference are eliminated.

In the case of the labor supply curve, moreover, an additional factor is at work. Part of the satisfaction which a worker derives from his job consists in the "social life" of the shop, the opportunity for continued contact with well-known associates amid familiar surroundings. Even if specified conditions of work were valued the same by all workers, or even if conditions were identical in all establishments, workers might be reluctant to leave a familiar workplace and work-group. The wage differential necessary to overcome this reluctance would differ from one worker to the next, and the result would be a sloped supply-curve to each firm. This attachment to a particular work-group, operating independently of the attractiveness of the job, provides a separate basis for deriving a sloped labor supply curve.[6]

(*b*) If we remove the assumption that firms are "small," the shape of the supply curve will depend on the reaction of other firms to a change in the wage rate of the firm in question. The problem is analogous to that of oligopoly in product markets, and a similar variety of solutions exists. It is not possible here to do more than mention a few of them, nor is it possible to go into the

6. The behavior of individual sellers of labor presents obvious analogies with that of individual buyers of consumer goods at retail. Personal attachment to a particular retailer is analogous to the worker's attachment to a particular workplace. Again, a consumer may habitually buy a particular brand of a product without bothering to reëxamine the relative merit of other brands. This is an instance of (deliberate) ignorance, rather than of preference. A comparable case would be that of a worker who decides once for all that his present job is the best obtainable and thenceforth does not bother to inform himself of the merits of alternative jobs.

dynamics of adjustment from the old to the new equilibrium position.

Looking up the curve from the present wage rate, two extreme possibilities may be distinguished. A wage increase by any one firm might be accompanied immediately by wage increases of the same amount[7] in all other firms. This might happen, for example, if employers followed a practice of consulting with each other before changing wage rates. Under such conditions either the firm proposing a wage increase would be dissuaded from making it or else all firms would advance their rates together. In this case each firm's supply curve will be a small-scale replica of the aggregate supply curve in the market.[8] At the other extreme, wage increases by one firm might be ignored by all other firms. In this case the firm's supply curve would be much more elastic, its slope depending on the extent of workers' attachment to their present jobs. Supply curves intermediate between these two may be derived by assuming that some firms follow a wage increase while others do not, or by assuming time-lags of various lengths between the initial increase and the reactions of other firms.

Looking down the supply curve, similar possibilities may be distinguished. The slope of the curve downward will almost certainly differ from its slope upward, i.e. it will have a "kink" at a point representing the present level of wages and employment. The actual shape of the supply curve, moreover, may differ from the firm's forecast of its shape. Wage changes may result in "surprises" to the firm which alter its expectations for the future.

The discussion thus far has ignored the possibility of inter-area migration of labor. This factor may be introduced most conveniently by considering the case of a firm which is the only employer in its area. The shape of its supply curve will clearly depend on the amount of labor which can be attracted from other areas at various wage levels. Money costs of movement alone would produce only a very slight upward slope in the supply curve.

7. Increases of the same *absolute* amount in all firms will not have the same effect as increases of the same *percentage* amount. Which type of increase will be necessary to leave all firms in the same competitive position as before depends on whether workers think in absolute or percentage terms.

8. This statement assumes that each firm is able to recruit its proportionate share of the additional workers becoming available at higher levels of wages (or, if the aggregate supply curve is backward-rising, that withdrawals from the market are proportionately distributed).

Almost all manufacturing plants in the United States could find many times their present working force within a radius of a hundred miles, and most of the labor migration which actually occurs involves movement of a hundred miles or less. The cost of moving a hundred miles, amortized over the worker's expected period of employment at the plant, would in most cases add only a fraction of a cent per hour to the wage rate. Moreover, a labor supply curve based on costs of movement would not be continuous unless workers were evenly distributed geographically, and this condition is approximated only in purely agricultural areas. Vertical discontinuities in the supply curve on this account are not likely, however, to be of much practical importance.

Probably more important than the money cost of moving is the attachment of workers to a particular locality. Workers ordinarily prefer a familiar community for the same reasons that they prefer a familiar work-place. The intensity of this local patriotism varies, however, from one individual to the next, and it can be overcome by a smaller cash advantage in some cases than in others. This factor thus provides a reason, and the only independent[9] reason, why geographic dispersion might produce a marked upward slope in the supply curve.

This survey of possible labor market situations indicates that one of the reasons frequently given for a sloped supply curve, namely, the desire for security, is inconsistent with the assumption of full employment. Two others — "dispellable" ignorance and costs of geographic movement — do not involve any significant departure from horizontality.

A labor supply curve with an appreciable upward slope must be ascribed to one or more of the following four conditions:

1. Differences in worker preference for specified combinations of money income and working conditions.
2. Attachment of workers to a familiar workplace.
3. Attachment of workers to a familiar place of residence.
4. Large size of employing firms.

Only the first two of these are (or may be) applicable under all circumstances. The third will have a major influence on the firm's supply curve only when the firm is the sole employer in its

9. Some writers on inter-area migration rely heavily on ignorance or uncertainty as obstacles to labor mobility. These obstacles also apply within an area, and the discussion of them in previous paragraphs is applicable here.

area and additional labor must come from elsewhere. The fourth is of widespread importance, but it will produce a kinked rather than a continuous supply curve, and in some cases the curve may not even be determinate.

We conclude, then, that there seems to be no reason *a priori* to regard the continuous sloped supply curve as typical. It will exist under the conditions noted, but supply curves which are substantially horizontal or substantially vertical, or which have a sharp kink at the existing level of employment, may also exist. The relative prevalence of these several situations under conditions approximating those of full employment is a matter for careful inductive study.

II

The discussion has thus far assumed full employment in the local labor market in question. Let us now assume that the volume of unemployment is greater than the inevitable minimum arising from seasonal and irregular fluctuations in the demand for labor and from defects in the technical organization of the labor market. While this excess of workers will be referred to hereafter as "the unemployed," it includes not only those who would be counted as unemployed under the Census definition but also persons not actively seeking work who could be induced to take jobs at existing wage rates by a definite offer of employment.

Let us assume further that employers give first preference in hiring to the unemployed (including new entrants to the labor market) and that they will not, so long as unemployment exists, hire a worker currently employed by any other employer. It is doubtful whether employers anywhere adhere perfectly to such an "anti-pirating policy," but it does form a sufficiently important element in employer action to justify an exploration of its logical consequences.

The assumptions of interchangeability and equal efficiency of labor will be left in force for the time being, but will be dealt with in the following section. Employment in all firms other than the one whose supply curve is being examined will be taken as constant. The wage rates of other firms will also be taken as constant, though not necessarily equal to the wage rate of the firm in question or to each other.

Under these conditions, the supply of labor to a particular

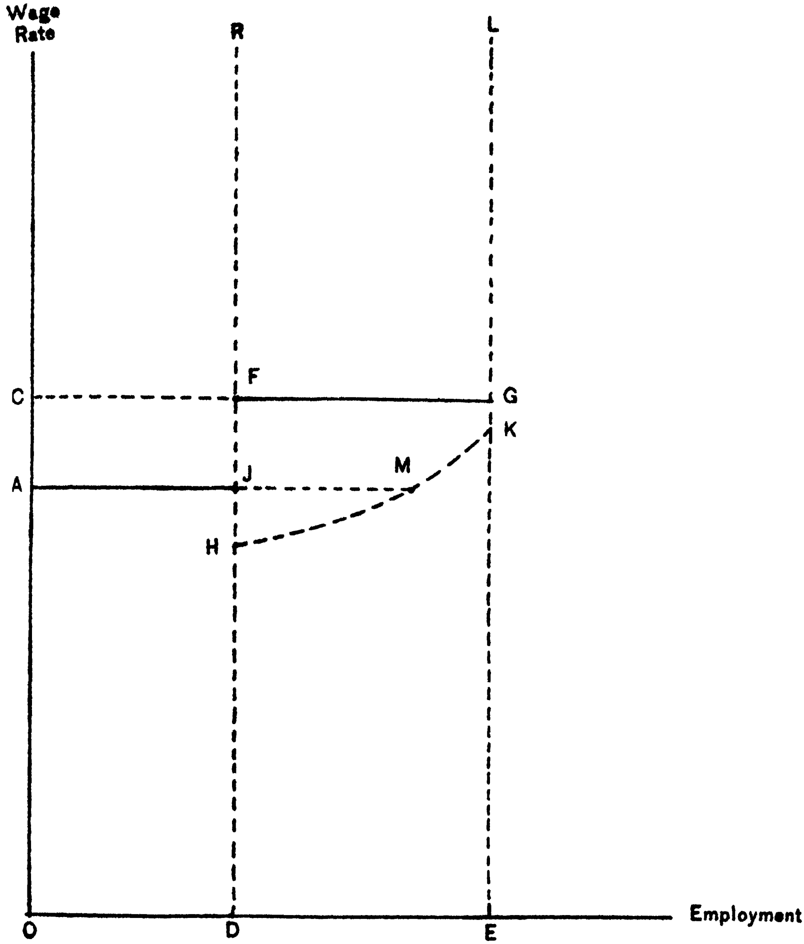

FIGURE I

firm may be represented as shown in Figure I. The point F represents the firm's current employment (OD) and wage rate (OC). The line AJ represents the lowest wage which the firm can pay and retain its present working force. In the absence of trade union organization or minimum wage laws, it may be taken as the rate below which any reduction would produce a complete and permanent work stoppage.[1] The position of this line at a given

1. The reader may object that AJ should slope upward, since wage cuts would cause some workers to leave the firm before others. Under the assump-

moment can never be estimated exactly. It probably depends mainly on the wage rates of other firms, the wage history of the firm in question and its traditional position in the wage structure of the area, and the level and rate of change of employment in the area. It will therefore be different for each firm in the area and will vary from time to time for the same firm.

In order to increase employment beyond *OD* the firm must have recourse to the unemployed, who are represented by the distance *DE*. If the area in question is regarded as "open," *DE* includes not only unemployed persons within the area but all others who can be attracted to the area at existing wage rates. If there is widespread unemployment in areas close to the one in question, *DE* may consist mainly of potential migrants and may be very large relative to *OD*. *EL* will shift to the left if other firms in this area increase their employment or if employment rises in contiguous areas, and will shift to the right for the opposite reasons.

The supply-price of the unemployed is indicated by *HK*.[2] This curve will be forward-rising for at least three reasons. First, if some of the unemployed have seniority with other employers which they are anxious to retain, a higher wage may be necessary to induce them to forego the chance of returning to their previous employers;[3] this will be particularly important as regards workers with seniority in firms whose wage rates are above that of the firm in question. Second, if there are sources of income other than

tions made above, however, any worker who left the firm would have to remain unemployed. Some workers might indeed prefer to remain unemployed rather than take wage reductions. It is likely, however, that the great majority would take reductions down to a certain point, below which all would quit in a body. It is thus probably a good first approximation to take *AJ* as horizontal, at least over relatively short periods.

2. *HK* has been started below *AJ* because it seems likely that at least some of the unemployed would be willing to take a lower wage than the employed workers would accept, but this is not in any way essential to the argument. The relative position of *H* and *J* would clearly vary greatly from one case to the next, and it is quite conceivable that *H* might lie above *J* on occasion.

3. If all employers laid off and rehired workers in strict accordance with seniority, if this system had existed long enough for all workers to accumulate substantial seniority, and if all workers valued seniority more highly than wages, the unemployed would in effect be divided into watertight compartments. Unemployed workers "regularly attached" to other firms could not be considered part of the supply available to a particular firm, i.e. the distance *DE* would include only unemployed workers regularly attached to the firm in question.

employment — cash relief, work projects, pension rights, unemployment compensation — some of the unemployed may have a higher reservation price than others on this account. Third, if inter-area migration is involved, some workers will require a greater inducement than others to leave their home communities.

The minimum supply-price of labor to the firm, then, is indicated by *AJMK*.[4] The employer is free to choose any combination of wages and employment which lies above this line. Once such a combination has been chosen, indicated in this instance by the point *F*, the firm may be regarded as operating on the supply curve *AJFG*. Wages can be cut to any point between *OC* and *OA* with no loss of employees. Looking up the curve, the firm need not raise wages to secure additional workers until the point of full employment is reached, This would not be true, of course, in all actual cases. Particularly in very low-wage firms, the reservation price of some of the unemployed might be above the firm's wage level, i.e. *HK* might intersect *FG*. For the majority of firms, however, it is probably safe to take the supply-curve as horizontal up to the point of full employment.

Several interesting characteristics of this hypothetical labor market may now be noted. First, the supply conditions of labor exercise little constraint over the firm's choice of a wage rate. Within rather wide limits, the firm can raise or lower wage rates without affecting the amount of labor available to it or to any other firm in the market. The limits of choice will be wider for a new firm than for an established firm which, by its previous wage decisions, has created worker expectations which limit its present actions. The observation that firms have latitude to pursue a wage policy, of course, raises more questions than it answers. Why should any firm choose to pay a wage higher than it is obliged to pay (*OA* in Figure I)? Why should any firm ever raise wages while unemployment exists? No complete discussion

4. Not, as might be thought, by *AJHMK*, since the area *JHM* is of no practical significance. It is conceivable that an employer might cut wages below *OA*, lose all his existing workers, and replace them from the unemployed. In a unionized plant, however, this could be done only with the greatest difficulty, and even under non-union conditions it would involve such serious labor unrest that it would not be attempted unless the employer were in desperate straits. The vertical line *KL* does not form part of the supply-curve. When the point of full employment is reached, the supply-curve takes on an entirely different shape, determined by the factors discussed in Section I.

of these questions will be attempted here, though some observations on the second one will be made below.

If the firm can vary its wage rate over a considerable range, there are important consequences for the theory of prices and production. The wage rate cannot be taken as given while one examines the firm's decisions on price and output. Decisions on prices are not independent of decisions on wages; indeed, they may be so closely interrelated that they constitute a single policy on prices-*cum*-wages. Looking beyond the firm to the industry, it seems highly probable that different firms will be operating at different wage levels, especially if the industry is geographically dispersed. Moreover, the wage rate of each firm is subject to arbitrary changes. Dispersion and changeability of wage rates introduces serious complications into the theory of pure and monopolistic competition,[5] and still more serious ones into the theory of oligopoly.

Second — and this is merely restating the previous point in another way — differences in the wage rates paid by different firms for comparable work could persist indefinitely without setting in motion any mechanism of adjustment. The labor supply conditions assumed here do not explain why wage differences may arise; such an explanation would clearly have to be sought on the demand side of the market. But once wage differences have come into existence for whatever reason, this type of labor market would permit them to continue undisturbed.[6]

Third, although the labor market is clearly imperfect, each firm may have a horizontal labor supply curve up to the point of full employment. There will therefore be no tendency to restrict production because of the rising marginal cost of labor and Mrs.

5. Under either pure or monopolistic competition, the constant downward pressure of supply on prices was supposed to encounter the resistance of a firm cost "floor," and between these two millstones the inefficient producer was ground to pieces. But if labor markets are of the type assumed here, the "floor" is different for different firms and is more like a quagmire than firm concrete. Competition may merely push the firm waist deep into the quagmire, where it dies — if it does die — a lingering death.

6. One additional assumption is involved here, namely, that young people entering the labor market behave in the same way as the unemployed, and will take a job with a firm which is hiring at the moment rather than remain unemployed in the hope of securing a job with a higher-wage firm at some later date. The same result would be obtained by assuming that all new entrants take jobs in places where friends or relatives are already employed, and that relative wage rates do not influence their choice of jobs.

Robinson's "monopsonistic exploitation"[7] will not arise, though workers may still be subject to "monopolistic exploitation."

These conclusions rest on the assumption of a substantial volume of unemployment and apply, *a fortiori*, if unemployment is increasing. How are they affected if unemployment is decreasing, and particularly if the decrease continues until full employment is approached? In this event the supply curve may take on a shape quite different from that shown in Figure I. Looking downward from F, the supply curve will remain vertical so long as employers continue to hire from the unemployed instead of from each other. If the expansion of employment is rapid, however, the "anti-pirating" policy is likely to be abandoned outright or to become seriously attenuated, and workers will also shop around increasingly for new jobs. The firm will then be able to retain only those workers who voluntarily choose its combination of wages and conditions as preferable to that of any other firm in the market. Similarly, looking upward from F, the firm will no longer be able to attract all the unemployed by a mere offer of employment at its present wage rates. Some of the unemployed will now hold back because of a hope of securing employment in a more attractive plant. The more buoyant the demand for labor the stronger will be their expectation of employment and the higher their reservation price. As the market approaches the point of full employment — more accurately, the point at which workers *behave* as if jobs could be chosen with perfect freedom — the firm's supply curve will approximate its "full employment shape" more and more closely.

The factors determining the shape of the supply curve under full employment have already been examined. To take only one simple case, the supply curve of a small firm enjoying moderate "worker preference" might resemble A_1K_1 in Figure II.[8] This diagram provides at least one reason why employers may frequently be found paying more than they have to at the moment.

7. Joan Robinson, op. cit., Ch. 26.

8. Figure II is perhaps technically incorrect in that it includes both curves from Figure I indicating a condition of unemployment and new labor supply curves (A_1K_1 and A_2K_2) which come into existence only when full employment has been reached (i.e. when DR and EL are identical). This construction has the advantage, however, of illustrating the wage adjustments which may be required to maintain a desired level of employment in the face of the new labor supply conditions.

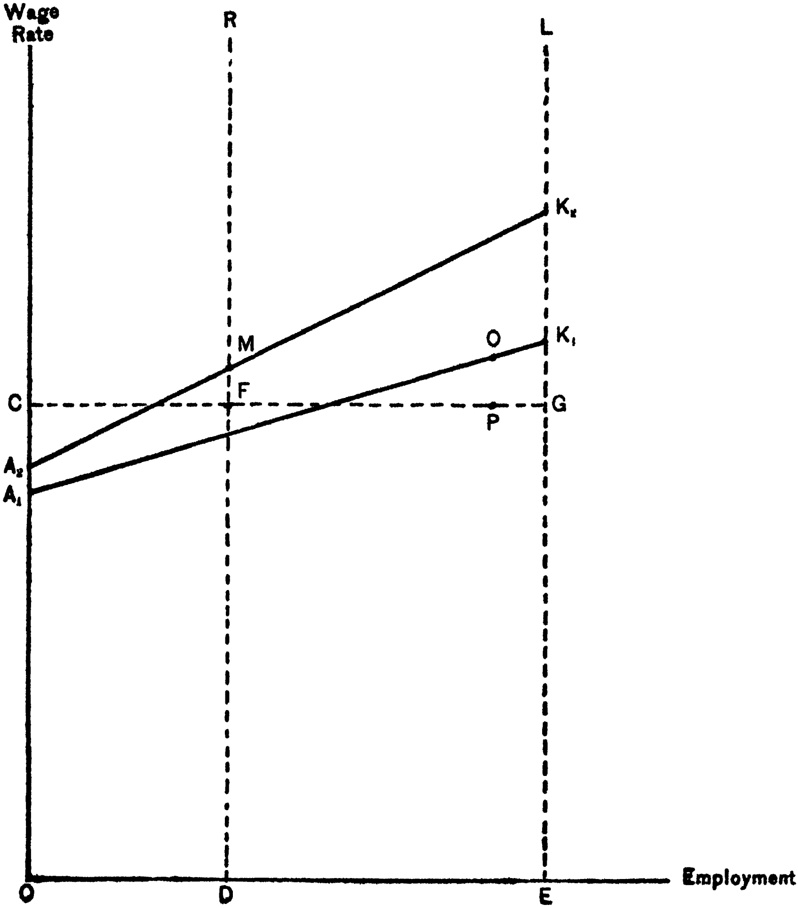

FIGURE II

If the employer expects a return to full employment and a fluid labor market, i.e. if he regards A_1K_1 (Figure II) rather than $AJFG$ (Figure I) as the normal situation, he may consider it risky to drive wages down below A_1K_1 even during period of unemployment.

The position of F relative to A_1K_1 indicates whether the firm was taking advantage of unemployment to pay wage rates lower than it would have had to pay under full employment. If its full-employment supply curve turned out to be A_2K_2, it would clearly have to raise wages in order merely to maintain its present labor force.

The firm may feel obliged to raise wages, however, even before full employment is reached. First, the supply curve is influenced, not by the statistical fact of full employment, but by workers' *attitudes* toward the availability of jobs. As soon as workers feel that no risk is involved in changing jobs, the supply curve will assume its maximum slope (A_1K_1 or A_2K_2) and the firm will be obliged to make appropriate adjustments. This may occur some time before unemployment has been reduced to a minimum.

Second, it may require a lower wage to retain workers already attached to the firm than to recapture them after they have left or to recruit workers employed by other firms. Moreover, it may be easier to hire men while they are still unemployed than to win them away from other firms at a later date. This could be shown diagrammatically in Figure II by vertical discontinuities in A_1K_1 (or A_2K_2), where it crosses DR and EL. Suppose now that the supply curve is A_2K_2 and the firm wishes merely to maintain its present employment. If it waits until EL reaches DR before raising wages, it takes a risk that employment will actually fall below OD and that it will have to win these workers back by still larger increases. Prudence will dictate that wages be raised to M before this can happen. Again, suppose that the supply curve is A_1K_1 and that the firm's employment objective is P. This objective can be attained more economically by raising wages to the point O *before* EL moves as far to the left as P, since after this point workers will have to be detached from other firms at greater expense.

Third, if unusually rapid recruiting seems necessary to attain the desired number of workers before the supply is exhausted, and if the structure of the market makes rapid recruiting difficult, it may be desirable on this account to raise wages at a relatively early point in the expansion. Such "preclusive buying" of labor is probably of considerable importance where firms are large and a rapid expansion of employment is under way.

Whether Figure I or Figure II is more relevant to the explanation of actual labor market behavior depends, of course, on how frequently full employment is approached and how long these periods of high employment last. High employment would probably have to last for at least one to two years in order to bring about a considerable volume of voluntary transference of labor

among firms and an appreciable reduction in inter-firm wage differentials.

III

It is necessary now to inquire how far the above results are modified by removing the assumption that all workers are of equal efficiency. Differences in efficiency may be introduced by using the vertical scale of the supply diagrams to indicate *wage cost per worker of standard efficiency*,[9] rather than the wage rate itself. This immediately raises the difficulty that efficiency can be measured only with respect to a particular job. Since the relative efficiency of workers will differ from one job to the next, a supply-curve can be drawn only for a single task performed under standard conditions. Moreover, the curves for different jobs can be placed on the same diagram or otherwise compared only on the questionable assumption that "standard efficiency" means the same thing in each instance. The problem will be simplified here by continuing to assume occupational specialization absent. Such an assumption is perhaps not as unrealistic as might appear at first glance, for in many plants a preponderance of the employees are engaged on low-skilled machine-tending and assembly operations which do not differ greatly in the qualities required of the operator.

It is usually argued that differences in individual efficiency will produce a forward-rising labor supply curve even under conditions of unemployment. The argument rests on two main propositions. First, since employers will lay off the poorest workers first, the least efficient of the employed will be better than the most efficient of the unemployed. The wage cost will therefore begin to rise as soon as the first unemployed man is hired. Second, since employers will hire the unemployed in decreasing order of their efficiency, the supply curve will rise continuously until full employment is reached.[1]

While the logic of such employer behavior is evident, there

9. This comes to the same thing as saying wage cost per efficiency-unit of labor, but the above terminology is closer to the current usage of time-study technicians. The problem of defining standard efficiency for repetitive manual operations and evaluating the performance of individual workers in terms of standard is well discussed in Ralph Presgrave, The Dynamics of Time Study, (Toronto, 1944).

1. Such a supply curve differs from the usual demand and supply curves of economic analysis in that the units for sale in the market are not interchangeable, but are ranked along the curve in a particular order.

are important obstacles to the application of an economic calculus in this field. Trade unions are increasingly insistent that layoffs be made on a strict seniority basis; and even where union regulations do not exist, employers usually attach considerable importance to length of service in making layoffs. If seniority is strictly observed, and if there is no correlation between seniority and efficiency, the workers laid off may be just as efficient as those still employed. If an inverse relation exists, as is sometimes contended, the unemployed may actually be more efficient. It should also be remembered that in periods of widespread unemployment the unemployed group is heavily weighted with young people who have just entered the labor market and whose efficiency, at least in jobs requiring little training, is probably relatively high.[2]

The second proposition — that employers will hire in decreasing order of efficiency — will be true only if four conditions are satisfied: the employer must be free from seniority rules and other restrictions on his hiring policy; he must have equal and simultaneous access to all the unemployed workers available for the occupation in question; the tests applied to these workers must permit a perfect prediction of their performance on the job; and hiring must be done in strict accordance with the test results. It is quite unlikely that these conditions would co-exist in practice. Indeed, one of them — perfect prediction of job performance — is not technically possible at present. The consequences of failure in one or more of these conditions cannot be traced in detail here. It is evident, however, that a completely unreliable testing system would produce a horizontal supply curve. And a situation in which the employer had access only to successive small samples of the unemployed would produce a more moderately-sloped supply curve than a situation in which the whole group could be examined simultaneously.

If the unemployed are hired in decreasing order of efficiency, the slope of the supply curve will depend on the shape of the efficiency-distribution and on the system of wage payment in use. A system of increasing piece rates — hardly ever found in practice

2. It may be objected that even if efficient workers do happen to be laid off they will not long remain unemployed, for employers will substitute the most efficient of the unemployed for the least efficient of the employed until the possibilities of substitution have been exhausted. In practice, however, such substitution is impeded not only by union rules but by deep-seated worker attitudes.

— would yield a falling supply curve, proportionate or "straight" piece rates a horizontal curve, decreasing piece rates a rising curve, and time rates a curve of still steeper slope.[3]

In actual practice it is likely that the cost per efficiency-unit of the best unemployed man is typically less than that of the poorest man employed. The supply curve of unemployed labor probably does rise in most cases; but if its slope is moderate, the expanding employer may not encounter rising wage costs until full employment is rather close, i.e. HK (Figure I) may intersect FG at a point close to G or may not intersect it at all. There is no empirical basis at present for a judgment on these questions, and investigation would doubtless reveal wide variation from one case to the next. The object here is simply to call into question the strong presumption in favor of one type of supply curve which has been created with scarcely any investigation of actual labor markets.

The introduction of differences in labor efficiency calls for one other footnote to the foregoing argument. Workers of differing efficiency probably tend in time to get distributed among employers so that a ranking of firms by average labor efficiency would correspond fairly closely with a ranking by average wage rates.[4] While this tendency has never been empirically demonstrated, it is difficult to doubt its existence. It is effective, of course, only over a period of several decades, because large-scale voluntary movement of labor occurs only at times of high employment,[5] and because the job choices of young people entering the labor force produce their cumulative effect only slowly.

If sufficient time is allowed for adjustment, then, a change in one firm's wage rates relative to other firms' may be partly or even wholly offset by a change in the quality of labor attracted to the firm. A change in the wage rate OC (Figure I) may be damped

3. It might be argued that a horizontal supply curve could result even under time rates, if differences in individual efficiency were exactly offset by differences in the workers' reservation price. This implies, however, that the employer can apply perfect discrimination in hiring — an obvious impossibility in most cases. The point is therefore of little practical importance.

4. The labor force may be thought of as strained through a series of sieves. The firms with highest wage rates get first choice and are able to strain out workers who meet strict hiring specifications, while low-wage firms must take the residue. The level of labor efficiency which a firm desires is doubtless one of the major factors influencing its choice of a wage rate.

5. In the few labor markets which the writer has had occasion to observe, voluntary movement of workers on a large scale occurred only during the periods 1917–1920 and 1941–1945.

down or even obliterated when the vertical scale is re-defined in terms of wage cost per worker of standard efficiency. Again, the slope of the "full-employment" supply curve (A_1K_1 or A_2K_2 in Figure II) will be reduced when the vertical axis is re-defined in this way; and the longer the period of time allowed for adjustment, the smaller will be the slope of the supply-curve.

A word, finally, about the effects of introducing occupational specialization of the labor force. In order to construct a general supply curve of labor to the firm under these conditions, the vertical axis must be defined as indicating the average level of wages in the plant. The number of additional workers who will be attracted by a given increase in wages (i.e. the slope of A_1K_1 in Figure II) will now depend not only on the factors noted in Section I but also on the occupational distribution of the labor force and the supply conditions for each occupation, the occupational rate structure of the plant, the occupational rate structures of other plants in the area, and the way in which the wage increase is distributed among the various occupational groups.

The concept of a general labor supply curve thus becomes more difficult to define and also less useful; for where occupational specialization is important, a company does not want merely so many more workers, but rather a balanced expansion of the working force. Any general wage increase must be sufficient to attract the required number of the scarcest type of worker, even though the increase also attracts many more workers of other types than are needed. A general supply curve may thus be quite misleading as regards the wage increase involved in a given expansion of employment, tending to understate appreciably the size of the increase required.

Another aspect of the same problem appears if one attempts to use separate supply curves for each occupation. Workers in a particular occupation may be in short supply, even though there is extensive unemployment in other occupations. If the scarce occupation requires a lengthy training and if the absence of trained workers is impeding production, it may be necessary to attract workers from other firms. The firm may thus be operating on a full-employment supply curve for one or more occupations, while continuing to enjoy a horizontal supply curve for other occupations. An increase in wage rates for the scarce occupation, however, may necessitate a general wage increase throughout the plant. This

provides an additional reason why general wage increases may occur in spite of general unemployment.[6]

IV

What can be said in conclusion about the usefulness of the continuous forward-rising labor supply curve? It is clear that the shape of the supply curve is much influenced by one's assumption about the level of employment. Under full employment, the labor supply curve will normally be forward-rising, but there is strong reason to doubt that it will be continuous. In most labor markets, the buyers of labor are "large."[7] The determination of wages then depends on the reaction of the oligopsonists to each others' decisions. A supply curve of the *caeteris paribus* type is inapplicable, and a usable supply curve can be drawn only on rather complicated assumptions about inter-firm reactions. Such a supply curve will certainly display "kinks" and may not even be determinate.[8] Even where a determinate supply curve exists, to suppose that its position can be known by the employer implies that he is singularly gifted in predicting the behavior of other employers and of the workers in the market.

Any reasoning about labor supply which is based on full employment assumptions, however, is of strictly limited usefulness. If one is attempting, not to develop propositions about ideal allocation of resources, but to construct a general theory of how labor markets operate, the possibility of involuntary unemployment must be admitted. No model of the labor market which excludes the pervasive influence of unemployment on worker and employer behavior can provide even a first approximation to reality. Reasons have already been given for thinking that, even where the supply curve of the unemployed is forward-rising, most employers will be faced with rising wage costs per efficiency unit of labor only when

6. In terms of Figure I, the distance JF is much less for a single occupation than for all workers in the plant, because workers in any occupation will resist any marked reduction of their *relative* earnings. An increase granted to one occupation will raise the wage expectation (OA) of workers in other occupations and may thus require increases in those occupations as well.

7. This is obviously true in small cities; and even in large cities it is likely to be true either because employers are large in an absolute sense or because only a few employers compete for particular specialized skills.

8. This possibility is analogous to the possible indeterminacy of the oligopoly demand curve. Cf. Benjamin Higgins, "Elements of Indeterminacy in the Theory of Non-Perfect Competition," American Economic Review, 29 (1939), pp. 468–79.

full employment is quite near—i.e. only for a short time during a cyclical upswing which carries close to the point of full employment. If, then, one has to choose a single supply curve for purposes of reasoning about "typical" labor-market behavior, a horizontal supply curve will give more realistic results than any other. The neo-classical assumption on this point turns out to be reasonable after all, though for quite different reasons than those usually advanced.

It is not intended here to assert that the labor supply curves constructed in Section II are an accurate representation of actual labor supply conditions in the United States. Such a statement would be presumptuous in view of the very limited amount of factual information on the subject. Inductive generalization must obviously wait on the completion of many more careful studies of local labor markets.

The object of this article has been rather to indicate some of the directions which such studies may fruitfully take A particular effort should be made to determine the nature of workers' preferences as between income, security, and working conditions; the extent of worker attachment to a familiar workplace or locality; the recruitment practices and hiring preferences of employers; the factors influencing employers' wage decisions, and particularly the reaction of the firm to wage changes by other firms in the same area or industry; the extent of inter-firm differences in "wages" as defined herein, and the variations in these wage differentials over a considerable period of time; the extent to which variations in wage rates are offset by variations in the quality of the labor obtained; the amount and direction of voluntary inter-firm movement of labor as compared with other types of movement; and the way in which all of these things are affected by variations in the amount of unemployment in the area.

Expressions of worker and employer attitudes, quantified as far as possible, need to be checked against evidence of behavior. Many of the variables mentioned above can be reduced to approximate quantitative form and expressed in time series. Analysis of the behavior of these series in a number of representative localities should make possible a much better approximation to the structure of the labor market.

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RESOURCE CONSERVATION* AND ECONOMIC STABILITY

SUMMARY

I. Objectives of the study, 412. — II. Influence of economic instability upon conservation: four major effects, 415; wasteful soil depletion, 417; wasteful mineral depletion, 423; implications for public policy, 426. — III. Conservation potentialities of commodity agreements: in general, 427; historical evidence, 432; the future, 442. — IV. Contribution of conservation policy to economic stability: general requirements, 445; postwar timing, 449.

I. Objectives of the Study

The relations between resource conservation and economic stability may be analyzed from three points of view. First, one may inquire whether instability in the utilization of resources can be regarded as a cause of economic fluctuations. Second, one may analyze the effects which economic fluctuations have upon the state of conservation in resource industries. Third, one may seek to discover how public policies in the field of resource conservation may be fitted into more general anticyclical economic policies. An attempt has been made elsewhere to answer the first question.[1] In this study attention will be focused on the last two problems.

After socially undesirable effects of economic instability upon the state of conservation have been explored with respect to their forms and causation, possible measures for alleviating these effects will be considered. Among these measures two will receive particular emphasis, because they promise to become important economic and political issues.

The first is the use of commodity agreements to stabilize (a phrase which is very popular with all agreements) resource industries. In the debate about commodity agreements and cartels, which is taking so much space in academic and popular publications, the conservation argument is frequently used in defense of such agreements. An attempt will be made here to throw light on the following issues. What is the validity of such an argument?

* Giannini Foundation Paper No. 115.

1. In a study of economic fluctuations in agriculture, in relation to fluctuations in nonagricultural industries: Ciriacy-Wantrup, S.v., Agrarkrisen und stockungsspannen. Zur frage der langen "welle" in der wirtschaftlichen entwicklung. Berlin, 1936.

What are its assumptions and limitations? Are there differences in these respects between resource classes? What have been the results of such agreements in the past? Did these results indicate a potential usefulness of agreements in the field of resource conservation? What are the necessary conditions which must be fulfilled if commodity agreements are to become an effective and socially acceptable tool of conservation policy in the future?

The second is the contribution which conservation policy may make to full and stable employment. If the experience in the United States after 1929 is at all indicative, there will be a strong popular demand for conservation programs, if unemployment should rise significantly, and, accordingly, large public funds will probably be made available for this purpose. Implements of conservation policy have their own tactical and strategic characteristics as a part of a general anticyclical economic policy. If properly chosen with respect to type, timing, and volume, they are exceedingly useful at some stages of economic development, superfluous or detrimental at other stages. The effectiveness of public assistance and public works in the field of conservation must be compared with that of other alternatives in maintaining full employment. All these points need investigation if misdirection of public funds is to be avoided.

The economic meaning of conservation and of the optimum state of conservation has been discussed in an earlier article.[2] Suffice it to repeat three points, in order to avoid a misunderstanding of some of the main concepts underlying the present study.

Conservation and depletion refer to actions of planning agents that produce changes in the distribution of use rates of natural[3] resources over instants of time. In conservation, the redistribution of use rates is in the direction of the future; in depletion, in the direction of the present. The temporal distribution of resource use has technological, economic, social, and political aspects of its own. Attention may be focused upon these, rather than upon the related, equally important, but more commonly discussed aspects of distributing use over different human wants with identical time

2. Ciriacy-Wantrup, S.v., Taxation and the Conservation of Resources, this JOURNAL, February, 1944, pp. 157–195.

3. We are not concerned here with human and cultural resources.

dimension. This special focus is the distinguishing element of a study on conservation.

Conservation does not connote efficiency, or depletion waste. Both may be wasteful. Waste of resources can mean here only that the net-value stream from utilization is not maximized. The theoretical and practical difficulties of applying the maximization principle in social economics, for example, the existence of extra-market values, the social weighting of individual preferences in valuation, and the improper allocation of social revenues and costs, will not be discussed in this study.[4] Solutions can be found which are helpful in approaching the optimum state of conservation, step by step, and in reaching minimum rather than optimum goals of public conservation policy.

Much of the current literature on economic stability stresses investment policy. It may be well, therefore, to note the differences between conservation and investment, and between depletion and disinvestment. Conservation and depletion refer to *physical* changes in the time distribution of use rates of individual resources. Investment and disinvestment refer to *value* changes in total capital of persons, firms, or whole social groups, as a result of differences between income and consumption in the same instant (Keynes), or in consecutive instants (Robertson). Investment and disinvestment have no necessary relation to use rates of individual resources. In social economics as well as in individual economics, investment often results in depletion, and disinvestment in conservation.

II. Influence of Economic Instability upon Conservation

What is meant by economic instability? A limitation of its many meanings is necessary for our purpose. Individual firms and industries are born, grow, decay, and die because of changes in the resource base, in personal leadership, in technology, in tastes and numbers of consumers, and in institutional conditions. During their lifetime, firms and industries are exposed to changes caused by random fluctuations (harvests, pests, diseases, catastrophes); by cycles in productive processes (cutting cycles in forestry, bearing cycles of tree crops); and by cycles in animal life (fisheries, domestic livestock). To be sure, these changes may hurt individual indus-

4. These difficulties will be discussed in a monograph entitled "Economic Theory and Public Policy of Conservation," now in preparation.

tries and firms. But usually they benefit other industries and firms. Such changes do not lead to national and international booms and depressions. The latter ups-and-downs are characterized by general fluctuations of incomes and prices. They affect raw material industries as violent changes of world demand. They are the kind of economic instability on which attention is focused here. Without implying strict periodicity, one may refer to them as business, or short-cycle, and as longer fluctuations, the latter consisting of periods of expansion and stagnation.[5]

Four Major Effects

Economic instability in this sense affects the state of conservation in four important ways:

First, economic instability increases the uncertainty allowance for most basic data used in production planning. Uncertainty allowance may be expressed through a deduction from expected revenues and an addition to expected costs, or through an increase in flexibility of the utilization plan. An increase in uncertainty allowance generally leads to resource depletion.[6]

Second, economic instability influences resource conservation through effects upon the interest rates used in individual utilization plans. It generally raises the level of interest rates in the market for loanable funds which is accessible to resource users. Uncertainty allowance of savers and lenders is increased, and obsolescence and outright destruction of durable goods are greatly accelerated through the two types of economic instability which are relevant here. A higher level of interest rates tends to induce depletion.[7]

The third effect is more complex. During the downward phase of economic fluctuations, the market for loanable funds accessible to resource users becomes highly imperfect and may even cease to function. The same result occurs in markets for assets of resource users and for their personal services in alternative employments. On the other hand, the decrease of income that takes place during this phase of economic fluctuations, especially in the presence of

5. Periods of expansion and stagnation, as the terms are used by Spiethoff and the present writer, denote temporary, "cyclical" phenomena in economic development, not secular changes of data — as implied in the more recent use of the term stagnation in Anglo-Saxon literature.

6. Ciriacy-Wantrup, S.v., "Private Enterprise and Conservation," Journal of Farm Economics, February, 1942, pp. 75–96.

7. Ibid., p. 88.

fixed changes, increases the time preference of individual resource users.[8] Under imperfect markets for loans, assets, and productive services, planning agents may take their time preference rates, rather than market interest rates, as a basis for decisions about the state of conservation. Under the conditions mentioned, this means depletion. In other words, it is more economical for planning agents to disinvest in resources through depletion than through sale or borrowing, if there are no ready markets in which assets they want to sell are capitalized (or in which funds can be borrowed) at interest rates lower than their individual time preference rates.[9]

All three forms of depletion are facilitated if "skimming" of resources is possible, that is, if future supply can be drawn upon with little increase in current cash costs but at great increase of future costs.[1] Other facilitating conditions in the field of cost structure will be discussed in connection with the fourth effect of economic instability upon the state of conservation.

The fourth effect of economic instability upon resource conservation is somewhat different. The three effects just mentioned operate through changes in expected basic data of individual utilization plans, brought about by changes in uncertainty allowance, interest rates, and time preference. The fourth effect is caused by

8. The rate of individual time preference is defined as a ratio between the present marginal utility of money in more distant future instants and the present marginal utility of the same amount of money in instants nearer to the present and reduced by unity; it may be expressed in per cent and per instant.

9. This depletion is not offset by conservation during prosperity. During prosperity, markets for assets and loans are less imperfect. The level of incomes is higher than during depressions. Variations of incomes have less and less influence upon time preference, as incomes increase. This follows from the assumption that marginal utility of money decreases monotonically without inflexion point (without a change in sign of the second derivative) with increasing income, and approaches both axes asymptotically. Under this assumption, the ratios between corresponding points on marginal utility schedules in different instants — and, therefore, the rates of time preference — must be large at low incomes and must decrease progressively with increasing incomes, until these ratios become very small.

1. Examples are: depletion of growing stock in forestry and of breeding stock in fisheries; selective mining of high grade ores in such a way that later recovery of joint poorer grades becomes uneconomical; speeding up the yield of oil wells without regard to the loss of gas pressure. For a more precise discussion of the interrelations (complementarity, competitiveness, and neutrality) in revenues and costs between rates of production in different instants see: Ciriacy-Wantrup, S.v., this JOURNAL, op. cit., pp. 170 and 194.

misdirections of the utilization plan that occur if expectations based on a period of prosperity or depression do not materialize. This effect is highly important for an understanding of the relations between commodity agreements and conservation, and for this reason warrants detailed consideration here. The fourth effect is closely related to the technological and economic peculiarities of individual resource industries. It may best be clarified through illustrations from agriculture and mining.

Wasteful Soil Depletion

In periods of rising prices, cultivated acreage has frequently expanded in regions whose arid and erratic climate or steep slope make them unfit for permanent cultivation. Soil depletion has often occurred during and after a period of prosperity for certain cash crops (for example, wheat, cotton, tobacco, sugar cane, rubber) which expanded as monocultures or near-monocultures in areas suitable for permanent cultivation only under a diversified system of farming.[2] On the other hand, in periods of declining prices, farmers have frequently maintained or even increased supply by depleting the soil.

If declining prices would cause land to be shifted quickly to those types of use (for example, a legumes-livestock economy or permanent grazing) which are better suited to the physical conditions, depletion of the soil would not become serious or even critical.[3] Often, however, contraction is very slow compared with expansion. Contraction is brought about, not so much by the direct effects of decreases in product prices upon marginal revenues,

2. During the high prices caused by the First World War such results accompanied the well-known expansion of wheat acreage in the High Plains, that of bean and pea acreage in the Coast Range of California, that of sugar-cane acreage in Cuba and Puerto Rico, that of cotton and tobacco acreage in the Piedmonts.

3. The term "critical" refers to a state of depletion at which the decrease in productivity becomes technologically irreversible or economic obstacles against reversibility grow very rapidly. A decrease in soil productivity can be reversed relatively cheaply, if it results from depletion of plant nutrients, increase in soil acidity and deterioration of soil structure. But if soil texture, especially in the A-horizon, has suffered greatly because of sheet erosion, or if deep gullies have been formed which interfere with farm operations, or if soil has been destroyed through erosion to bedrock, the economic possibilities for reversibility are greatly diminished. Technological irreversibility at the critical state of depletion occurs in the utilization of animal and plant resources, if the breeding and growing stock is impaired. Within a species, destruction of individuals who carry rare genes may also be important.

but rather by soil depletion. The failure of agricultural production to respond significantly and quickly to decreases of product prices (sometimes the response may even be an expansion of production) is, therefore, important for resource conservation.

This behavior of agricultural production is discussed in economic literature as an inelastic or, if a decrease of product prices elicits an increase in production, a negative supply curve. Problems of magnitude and sign of (short-run and long-run) supply elasticity should not be confused with problems of lags and of shifts in supply in response to price changes. A supply curve (short-run and long-run) is an instantaneous concept. The response of agricultural production to price changes is a continuous process over time. Strictly speaking, neither short-run nor long-run assumptions can be applied to this process. A negative supply curve actually consists of downward shifts of the supply curve in response to decreases of product prices. The reasons will be explained presently. As a first step, we may look at the causes for an inelastic instantaneous supply curve of agricultural production as a whole, and of individual crops if they are produced as monocultures.[4] Clarification of these causes will throw light upon the problems of lags and shifts in supply. To the latter problems we will proceed as a second step in our analysis.

The importance of imperfections in the markets for farm loans and for farm assets was emphasized above. The effect of such imperfections upon the adjustment of supply (in cases where adjustment requires outside capital or changes of assets) is fairly obvious. This effect is not peculiar to agriculture. To focus on the behaviour of costs appears more profitable. Supply curves (short-run and long-run) can always be interpreted as (individual or aggregate) marginal cost curves. Three aspects of the cost structure in agriculture are relevant here.

First, fixed and lumpy[5] costs are particularly important in

4. The price elasticity of agricultural production as a whole is especially small, because of various effects of joint costs. These effects were considered elsewhere. (Ciriacy-Wantrup, S.v., "Economics of Joint Costs in Agriculture," Journal of Farm Economics, November, 1941, pp. 771–818.) On the other hand, individual crops grown in a diversified system of farming may show a considerable price elasticity of supply, because shifts between crops and between crops and livestock are relatively easy in such a system.

5. Lumpy costs differ from fixed costs in the degree of fixity. Fixed costs proper do not vary at all with changes of production over the range considered. Lumpy costs are fixed over a part of the range that is large in relation

agriculture. Investment in land, in improvements (buildings, drainage and irrigation systems, transportation facilities, trees), in equipment, and in breeding stock looms large. Hired labor is frequently a fixed item because of institutional conditions (as in parts of Europe), or because of employment contracts (as on rubber and sugar-cane plantations in colonial areas).[6] If fixed and lumpy costs are important in relation to variable costs, the point of minimum average variable costs (that is, the point at which production would cease in an individual enterprise, if product prices decreased further) may be far below the point of minimum average total costs. The fixed-cost argument for maintenance of supply under decreasing prices is strictly valid only under short-run assumptions.

Second, the effect of price changes upon production between the points of minimum average total costs and minimum average variable costs depends on the slope of the marginal cost curve. In agriculture the slope between these two points is frequently steeper than in manufacturing. Tendencies toward diminishing marginal physical output are generally more powerful in agriculture.[7] Changes of variable inputs in response to changes of product prices, therefore, may affect production but slightly. This aspect of cost structure is generally more important under intensive than under extensive variations of supply;[8] from our standpoint extensive

to the whole range considered; they vary discontinuously. Fixed costs do not enter into short-run marginal costs and are therefore disregarded in the determination of short-run individual outputs and total supply. Lumpy costs do not enter into marginal costs between the points of discontinuity of the total cost function. Within those points, therefore, they must be treated like fixed costs. At the points of discontinuity, the full jump of lumpy costs is formally added to marginal costs. In agriculture most lumpy costs are irreversibly variable. They are variable only with increasing production, but resist variation with decreasing production. Lumpy costs in agriculture, then, behave like fixed costs if production is reduced.

6. The labor of the operator's family may also be regarded as a fixed item. However, it seems more appropriate to regard family labor together with the services of the operator himself as variable costs of a kind to be discussed below.

7. The reasons for this "law of diminishing returns" are technological. They are largely connected with the rôle of space (both in its horizontal and vertical dimensions) and of biological factors. Both aspects are more important in agriculture. In manufacturing, recent studies indicate rather small slopes of marginal cost curves. Committee on Price Determination, "Cost Behaviour and Price Policy." National Bureau of Economic Research, New York, 1943.

8. Extensive refers to variation of supply brought about by increases in the acreage of individual crops, either at the expense of other cultures or by bringing new land into use. Intensive refers to variations of supply without changes in acreage of individual crops.

variations are more relevant. The diminishing returns argument can be used in long-run as well as short-run situations.

Third, in agriculture, important variable costs are non-cash inputs, in the sense that they need not be purchased at the market, nor is their market value readily ascertainable. These variable costs are those of the operator's services, of family labor, of feed, and of soil fertility. Markets for the services of the operator and his family are highly imperfect, because of specialization and indivisibility in these services, and because their alternative opportunities are closely related to the likewise imperfect markets for farm assets and loans — especially during depressions. Feed can be produced on the farm. Fertilizer purchases can be avoided by relying on depletion of soil fertility. The non-cash character of these variable costs (and of corresponding returns, for example, food and shelter, which occur jointly with cash returns) is important for agriculture's response to price changes, because inequality of marginal inputs and outputs is difficult to detect. When prices decline, such inequality is neither apparent nor dangerous through its effects upon the financial liquidity of the enterprise. This factor also operates under short-run as well as long-run assumptions.

In agriculture, productive services which give rise to fixed, lumpy, and non-cash variable costs frequently constitute a complete production unit. Minimum average variable cash costs may be close to zero to the right of origin in the Cartesian system of coördinates. In other words, production will continue if price declines of products reduce or even prevent purchases of hired labor, feed, and fertilizer.

These factors, together with factors of jointness, explain the rationale of small instantaneous (short-run and long-run) supply elasticities — especially if prices decline. They do not explain so-called negative supply curves. Moreover, as already indicated, we are interested here especially in lags of production adjustment and in shifts of supply over time. Let us now consider these two problems in turn.

If the time dimension of fixity is considered, fixed costs and lumpy costs may both be discussed as sunk costs. This term has the further advantage of possibly including non-cash as well as cash variable costs.[9] In agriculture, variable costs are sunk over

9. As will be recalled, the terms fixed, lumpy, and variable refer to instantaneous variations in rates of production, not to time. Demonstrably, however,

various periods of gestation.[1] Fixed and lumpy costs are sunk because technological and institutional indivisibility, immobility, and nonfungibility prevent quick and cheap adjustment of productive factors (land, trees, buildings, equipment, breeding stock) which give rise to these costs.

A high proportion of sunk costs affects lags in production adjustment in the same way that a high proportion of fixed costs affects supply elasticity. Sunk costs are likewise disregarded in production adjustment. Additional variable costs, which in this case may be called recovery costs, are expanded until their marginal unit equals the marginal unit of corresponding revenues. We might repeat the argument offered above in the case of fixed cost, substituting the terms sunk costs for fixed costs and recovery costs for variable costs.

Shifts of supply curves over time in periods of decreasing prices of agricultural products are explained largely by factors that affect labor input. This is true both for hired labor and family labor. Prices of other inputs (fertilizer and equipment) have generally been less flexible than product prices. There is some evidence that technological improvements have spread faster during depressions than during prosperity; but the evidence on this point is not conclusive.

During economic fluctuations, in most countries, wage rates for hired labor have been more flexible in agriculture than in other industries. In industrial countries (for example, the United States and Western Europe) this fact is related to less rigid unionization of the agricultural labor market, to the greater importance of payment in kind (room, board, agricultural products, land to produce food and feed) and, partly induced by these differences, to rural-urban and urban-rural migration during economic fluctuations. In colonial areas, operating with imported labor (for example, Chinese and Indian labor in Burma, Malaya, and the Dutch Colonies) wage rates were rather flexible during depressions. This occurred because alternative local employment was difficult to

the dimension of time (durability) is implicit in the differentiation between fixed and lumpy costs on the one hand, and variable costs on the other.

1. One year in crop production; from one to four years in livestock production, if breeding stock is not increased; from one to eight years, if breeding stock must be increased in order to increase market supply; and from eight to ten years in the production of bearing trees

obtain, and because remigration was frequently not desired by the laborers themselves.

Family labor input, including labor of the planning agent, is determined not by the movement of wage rates but, in view of the market imperfections for farm assets and loans already mentioned, by the balance of marginal disutility of effort and marginal utility of product. This balance may be decisively affected, if decreases of product prices increase the marginal utility of money. As we know, this effect becomes more and more important as incomes decline. Family labor input, therefore, may increase in response to decreasing prices, especially in the low-income groups. This shift of the supply curve for family labor during agricultural depressions has the same causes and similar results as (but is not identical with) the increase of time preference discussed above under the third effect of economic instability upon the state of conservation. Both phenomena are related to variations in the marginal utility of money in the course of income declines. An increase of time preferences, however, may have the above (third) effect upon the state of conservation, even if the planning agent and his family do not furnish a significant portion of the total labor input.

To summarize. Most characteristics of the cost structure tend to make agriculture's response to price changes sluggish, compared with manufacturing. This influence is much more pronounced when prices decline than when they rise. Under certain conditions, a response to declining prices may be absent for a long time or may be negative, especially among low-income, self-employed farmers. Output is maintained or even increased by depleting the soil and human fiber. A vicious circle — low prices, low incomes, soil depletion — is created. This situation is especially serious for the soil (and for the cultivator) if, in response to a period of high prices, production has expanded into areas with climatic or topographic soil erosion hazards; it is also serious if monocultures have become dominant in regions where soil depletion can be avoided only through a diversified system of farming.[2] Thus, control of short-sighted expansion and assistance to orderly contraction in the course of economic fluctuations are necessary for

2. Diversification of farming systems should not be confused with diversification by regions. From the standpoint of soil conservation the former is relevant.

the avoidance of wasteful soil depletion, which results from the free play of economic forces.

Wasteful Mineral Depletion

Turning now from agriculture to mining or, more generally, from flow to stock resources,[3] it should be noted that economic instability affects the state of conservation in certain ways which, like the effect just observed in agriculture, are closely connected with difficulties of contracting production in orderly fashion, that is, from the standpoint of this study, without socially wasteful depletion of resources. As in the case of agriculture, these difficulties are connected with peculiarities in the cost structure.

In the mineral industries, mines or sections of mines that become temporarily sub-marginal during a depression must be properly maintained if operation is to be resumed later. Water intrusion (potash, bauxite, zinc), cave-in (coal), seepage and loss of pressure through blow-off (oil, gas), and rapid deterioration of unused fixed and specialized equipment (shafts, wells, dredges, transportation facilities, pumping and air-conditioning systems, ore improvement plants) are the main factors that prohibit a resumption of operations without proper maintenance. Alternatively, these same factors necessitate rather high costs for maintenance. If restriction of output is forcibly brought about, not by the direct economic effects of decreases in product prices but through inability of high-cost producers (high in terms of minimum

3. Resources are defined as flow resources if different units become available for use at different instants of time. Rates of flow without use may increase or decrease continuously or discontinuously at either a constant or a varying rate. No present rate of flow (which should not be confused with rate of use) diminishes future flow, and it is technologically possible to maintain use infinitely, provided the flow is infinite. Rates of use, however, may impair future rates of flow.

Resources are defined as stock if, without use, they do not increase significantly with time or if they decrease with time. Each rate of use diminishes some future rate. It is impossible to maintain use infinitely. With some stock resources, nevertheless, use can be maintained over so many instants that the physical limitations on quantity are economically irrelevant. Ordinarily, however, these physical limitations are highly relevant economically. The ends-means scheme that defines a resource usually implies strict locational and qualitative characteristics.

For a more detailed discussion of these two resource classes and of their various subclasses see: Ciriacy-Wantrup, S.v. op. cit., this JOURNAL, pp. 162–163.

average cash costs and of fixed charges)[4] to meet current obligations after exhaustion of financial reserves, costs of maintenance cannot be met. A decrease of product prices, therefore, may lead to permanent destruction of resources which would not be sub-marginal after the depression has passed. The cost structure of mining makes such wasteful death struggle of temporarily sub-marginal capacity almost certain under laissez-faire.

In mining, fixed, lumpy, and sunk variable costs constitute a major portion of the total. Interest and amortization charges for the above types of equipment loom large. More importantly, fixed costs of maintenance, that is, costs for maintenance at zero production, increase often more than in proportion to the sunk investment. The reason was already implied. The more deposits of stock resources are opened up through investment in shafts, wells, and removal of protective strata, the greater the danger from water intrusion, seepage, blow-off, and cave-in.[5] The importance of these aspects of the cost structure for smallness of supply elasticity and for lags of supply need not be repeated.

For some stock resources, especially metal ores, a considerable and increasing part of the total current supply of the refined product originates from scrap. The supply of scrap is largely determined by the consumption of virgin resources in the past and by the rather erratic rate of obsolescence of finished goods. Current price elasticity of scrap supply, therefore, is rather small over the relevant range. The burden of adjusting total supply (from primary and secondary sources) falls mainly upon the primary producers.

In mining, variable costs consist largely of labor costs. As in agriculture, the increase of marginal costs is rather steep over the relevant range, because of the "law of diminishing returns." The technological reason for decreasing marginal physical output in

4. Fixed charges represent contractual obligations of an economic unit to make current payments regardless of the nature and origin of these payments. Fixed costs, on the other hand, can be attributed to the manner of use of productive services regardless of property and other rights.

5. The Alsace-Lorraine potash deposits which were developed before and during World War I were damaged considerably because proper maintenance was interrupted for a short period at the end of the war. Recently, a high grade but high cost (relative to South American ores) bauxite deposit in the United States was threatened with destruction when Government orders were cancelled after the resource was opened during World War II. In both cases the destructive agent was water.

mining is largely connected with the rôle of space (in its vertical rather than its horizontal dimension) and of grade of ore.[6]

Non-cash variable costs and shifts of supply curves during depressions are less important in mining than in agriculture. Input of family labor in relation to total labor input is negligible. Hired labor is well organized and paid in cash — as in manufacturing. An exception is found in mining enterprises in colonial areas operating with coolie labor.[7]

This exception, although generally not sufficient to cause negative responses of production to price, leads to another point that is relevant here. In mining, great differences in cost structure exist between individual enterprises of the same industry. More important than differences in labor organization are differences in technological conditions (grade of ore, depth, width, and total quantity of deposits, geographical location, and accessibility of mines) and in financial strength. Because of these differences, individual enterprises vary greatly with respect to profitability and to financial necessity of curtailing production. There is a tendency to delay a decision about shut-down until financial reserves are exhausted or appreciably diminished. Competition is frequently imperfect. During a depression, producers are reluctant to relinquish their share of the market to others. They fear that such a loss may decrease their chances of participating in the recovery. Generally, duration and severity[8] of decreases in product prices are underestimated in producer's expectations. An attempt is made to hold on a little longer, in the hope the turn of events is near.

The conditions just described have several consequences. Enterprises which are forced to shut down after a long death struggle are usually not in a position to meet expenditures for proper maintenance. As already explained, this may lead to the destruction of resources. These resources may not be sub-marginal after the depression has passed, and enterprises eliminated may

6. For illustrations see: Corry, A. V. and Kiessling, O. E., Grade of Ore, Mineral technology and output per man studies. Works Progress Administration, National Research Project. Report E-6. Philadelphia, 1938. 114 p.

7. In some areas, for example, in Malayan tin mining, labor conditions of Indian coolies are closely supervised by the government. Rather than approve wage decreases, the government may force the operators to repatriate the laborers.

8. During depressions, demand curves for raw materials not only shift downward but also decrease in elasticity.

not be high-cost producers. The weeding-out process may reduce future supply much more than prospective demand warrants and, in terms of social contributions, it is not necessarily the "fittest" who survives. Survival may be determined by deposits which can be "skimmed," by accumulations in the past, by financial connection with other industries, and by exploiting a monopsonistic position in the labor market. Thus, although the industry may have permanently sub-marginal capacity which should be eliminated, to have this accomplished through a struggle for survival may not be at all socially desirable.

Implications for Public Policy

All four effects of economic instability upon the state of conservation are undesirable because they lead to socially wasteful depletion of resources. The question arises, therefore, how can such effects be mitigated or avoided. Remedies for wasteful depletion are closely related to its causes.

Uncertainty allowance in private utilization plans may be reduced through public assistance to pooling and spreading arrangements within resource industries and through shifting uncertainty bearing to the public. This shifting may take various forms. The most important examples are: Government insurance schemes, in which resource users do not pay the full premium; publicly guaranteed forward, or minimum, or parity prices and incomes; Government commodity loans with purchase agreements; publicly held buffer stocks and commodity reserves to increase price stability.

Although it is feasible to change the general level of interest rates for private enterprises through monetary and fiscal policies, the effects would go far beyond the problems of conservation and, because of imperfections in the loan market already emphasized, may not necessarily touch the individual resource that is being considered. Within individual fields of resource utilization, interest rates may be decreased.[9] This may be accomplished through subsidies, given either directly to private lenders or borrowers, or indirectly through public banking institutions operating at a loss. It appears questionable whether planning agents would regard such subsidies as constant enough to serve as a basis for decisions affect-

9. Public policies to *increase* interest rates for individual resource industries in an economy based on private property are economically and politically difficult to conceive.

ing the state of conservation. In other words, the political nature of subsidized interest rates requires an uncertainty allowance that would largely offset a decrease in the rates.

Effects of increases in time preference may be lessened by decreasing imperfections in the markets for loans, assets, and personal services; by making payment of rents, interest, and taxes, as far as possible, flexible with incomes, or limited in total amount; and by cushioning decreases of income in the lower income brackets by subsidies.

Zoning and production quotas may prevent shortsighted expansion of agriculture and other forms of land use into areas not permanently suitable. Public acquisition and administration of resources may be employed to facilitate contraction without destruction of resources. The sub-marginal land purchase program and the withdrawal of public domain through the Taylor Grazing Act are examples. Conceivably, special taxes, granting and withholding of public credit facilities, and subsidies and penalties may be tried for the same ends.

An adequate discussion of the relation between these implements of public policy and resource conservation would require several papers. The usefulness of most of these implements is limited by constitutional and political obstacles. Of greater actual interest are production and marketing controls by organized groups of resource users, and public policies designed to attack economic instability at its roots. These topics, in their relation to conservation, will be taken up in the two following sections.

III. Conservation Potentialities of Commodity Agreements

Conservation (or depletion) of resources may be related to production and marketing agreements — for short, commodity agreements[1] — which are concluded between individual firms, between groups of firms, or between governments. No reference need be made to these particular types of agreement in considering their general potentialities as implements of conservation policy. Such potentialities will be reviewed briefly for the two major

1. Patent agreements are related to production because they may be used for developing or not developing resources. In actuality they are more important for manufacturing. Price agreements are generally a part of an agreement that allocates markets. A sharp economic differentiation between commodity agreements and cartels, which currently is in vogue, appears questionable logically as well as practically.

classes of resources by applying the results of the preceding section. We will then ask how far such potentialities were realized in the past and how their realization could be improved in the future. In dealing with the historical evidence and with institutional mechanisms we shall focus on international commodity agreements concluded between governments; this type will probably become the most important one.

Potentialities in General

Most of the argument for and against the social desirability of commodity agreements concerns their effectiveness in reducing price instability for products of individual resource industries.[2] The historical evidence is against such an effectiveness, as illustrated below. In principle, it appears highly doubtful whether sufficient price stability (that is, from our standpoint, sufficient in degree and duration to affect the state of conservation) can be obtained without attacking the causes of economic fluctuations at the roots. To counteract frequent and violent changes of world demand, characteristic of economic fluctuations in raw material industries, through planned changes of supply, requires almost superhuman knowledge, integrity, and administrative efficiency of planners, and a rare comprehensiveness and thoroughness of organization in order to prevent production by outsiders and noncompliance of members. Required, too, is a great flexibility of supply. Usually, such flexibility requires large[3] buffer stocks, because of familiar factors in the cost structure. Finally, there are the adverse effects of increased price stability (and, if buffer stock devices are insufficient, increased flexibility of production and payrolls) in one resource industry upon the stability of others and of the whole economy.

For all these reasons, there appears little merit in arguing here the point whether or not commodity agreements are potentially capable of decreasing the instability of prices sufficiently to be of interest for conservation. It is more relevant to consider the rela-

2. Assuming that there is agreement about the social undesirability of increasing producer's net revenues through monopolistic or monopsonistic exploitation.

3. Proponents of a centrally controlled buffer stock often overlook the fact that it will partly replace stocks held by the trade and by major consumers. These groups are only too glad to shift the risks and costs of carrying stocks to producer organizations or to the public. In order to have the desired "additional" effect, therefore, a buffer stock must be large.

tions between commodity agreements and conservation under the assumption that price fluctuations cannot be sufficiently (in the defined sense) reduced by such agreements. This does not mean that commodity agreements can have no effects upon conservation through increasing (or decreasing) stability of product prices. It does mean that the conservation argument for commodity agreements must be built on a stronger foundation.

Under the assumption just made, commodity agreements may be considered as remedies for wasteful depletion mainly[4] in connection with its fourth cause, which, for this reason, received special attention in the preceding section. Commodity agreements are, potentially, implements of conservation policy in controlling production increases during prosperity and in facilitating decreases during depressions under conditions where rapid expansion and slow contraction lead to wasteful depletion of resources; commodity agreements may also be helpful in changing these conditions themselves.

What are such conditions in the field of flow resources? As we know, under certain conditions of climate, slope, and practices,[5] cultivation in itself, or the production of certain crops as monocultures, leads to wasteful soil depletion. For other flow resources (forests, grasslands, fisheries, game) impairment of growing and breeding stock results in wasteful depletion. Conservation can be brought about by a commodity agreement which, during prosperity, restricts expansion of production to suitable physical conditions; which, during depressions, provides for decreases of monocultures in favor of diversification, and prevents forced liquidation of growing and breeding stock under financial stress; and which, at all times, facilitates the spreading of practices which change the

4. Agreements may facilitate some of the remedies suggested above (Sec. II) in connection with the first and third causes of wasteful depletion. Primarily, however, these remedies are matters of domestic public policy, and do not need agreements for their implementation.

5. Obviously, practices are extremely important. With proper terracing, for example, soil erosion can be held to a minimum, even on very steep slopes. This, however, is often a physical rather than an economic possibility. More promising from the economic standpoint is erosion control through the use of soil-protecting crops, especially perennials. Forests under proper silvicultural practices and permanent grasses are the most notable examples. Strip cropping employs the same principle. Rubber can be produced under a system closely resembling natural forest conditions. Coffee may afford protection to the soil through shade trees that form a necessary element of coffee groves in many areas.

technological conditions of wasteful depletion (for example, silvicultural cutting practices as recommended in the NRA Code, erosion preventing practices as developed by the Soil Conservation Service, grazing practices as used by the Grazing Service, fishing practices as required by many international fisheries conventions).

With stock resources, especially potash, oil, gas, and metal ores, conservation is brought about by a commodity agreement which, during prosperity, controls the opening up of new deposits with a view to their long-run economy; which, during depressions, helps to eliminate permanently sub-marginal capacity in orderly fashion (in the defined sense), and makes proper maintenance possible by providing for payments to temporarily sub-marginal producers when their capacity is put into cold storage and output concentrated in the more efficient enterprises. At all times, commodity agreements may result in conservation through spreading general adoption of practices which change the technological conditions of wasteful depletion (for example, by agreeing to deplete oil pools on efficient gas-oil ratio, to prevent escape of gas and wasteful burning, to space wells to best advantage,[6] to use poorer ores,[7] and to adopt conservation mining techniques[8]).

Commodity agreements, however, may have conservation effects which are privately but not socially desirable, and they may result in socially and, sometimes, privately wasteful depletion. Four practically important cases in which such results may occur deserve consideration.

First, according to our definition, a decrease in the production of stock resources usually[9] means conservation. A production control agreement that is successful in decreasing production (in the

6. These practices are objectives of the Interstate Oil Conservation Compact of 1935 and amendments. See: 49 Stat. 939 amended by 50 Stat. 617, 53 Stat. 1071, 55 Stat. 666 and 57 Stat. 383.

7. An agreement to this effect has been in force at various times in South African gold mining.

8. Examples are coal mining techniques recommended by the NRA Code and stipulated by several State Acts. The best known of the latter is the Pennsylvania Kohler Act of 1921, declared unconstitutional by the Supreme Court one year later. (Pennsylvania Coal Co. v. Mahon, 260 U. S., 393, 43 S. Ch. 158, 67 L. Ed. 322, 1922.) Provisions interesting from the standpoint of conservation are also contained in West Virginia legislation (West Virginia Act, 1939, Ch. 84 and 1943 Code Ch. 22, Art. 2A.).

9. Provided that certain conditions with respect to complementarity, competitiveness, and neutrality in marginal revenues and costs between rates of production in different instants are fulfilled.

sense that decreases in production by complying members is not offset through increases by non-complying members and outsiders) and in raising net revenues to complying members, results in socially undesirable conservation, if the increase in net revenues is largely caused by monopolistic exploitation of consumers, or by monopsonistic exploitation of workers, or by both.

Second, the agreement may not be successful in the above sense. Over time, decreases by complying members may be more than offset through increases by non-complying members and outsiders. Such new capacity will stay in production even if it depresses prices to or below the pre-agreement level. Why this lag in the adjustment of production to price occurs in the utilization of flow as well as stock resources, and why it is a cause of depletion was explained in the preceding section.

Third, by continuing output restriction during those phases of economic fluctuations, when it is unnecessary from the standpoint of conservation, commodity agreements may increase rather than decrease the violence of price and production fluctuations, and may thereby lead to depletion. From the standpoint of conservation, as we have seen (Section II), output restrictions are justified during depressions to eliminate permanently sub-marginal capacity in orderly fashion, and to put temporarily sub-marginal capacity into cold storage under proper maintenance. If restrictions are continued during upswing and prosperity, resulting high prices induce non-compliance by agreement members, installment of additional capacity by outsiders, and expansion of substitute industries until restrictions on members are abolished or the agreement disintegrates. By the time the next depression sets in, unbalance between (unrestricted) capacity and demand is greater than before, and producers, consumers, and the public generally have become dissatisfied with the agreement when it is needed most.

Fourth, instead of facilitating the spreading of practices which change the technological conditions of wasteful depletion, commodity agreements may contain provisions which encourage such depletion. For example, an agreement between timber exporting countries to reduce the supply may induce overcutting of immature stands in importing countries; a sugar agreement may provide for a greater decrease in sugar-beet production (which may aid in conserving soil fertility) than in sugar-cane production (which in

many parts of the world leads to soil depletion); a rubber agreement may impose greater restrictions on planting in native holdings (where uncultivated rubber "forests," especially if planted in ladangs,[1] protect the soil) than on estates (where clean-row cultivation leads to accelerated erosion). Some of these effects will be observed below.

Historical Evidence

Before an appraisal is made, whether and how these four dangers can be avoided (the first three are common to all commodity agreements in which an increase of prices is a major objective), we may look briefly at the historical evidence. For reasons already stated, such a review will be confined to international commodity agreements concluded between governments. We will also omit international conventions concerned with the conservation of fugitive flow resources (fisheries, migratory birds, and upland game). Such conventions were treated recently elsewhere;[2] their relation to conservation is direct and not primarily connected with the effects of economic fluctuations; their institutional mechanisms are well developed, and their social justification is rather uncontroversial. It seems more interesting to focus on commodity agreements which have a complex and sometimes questionable relation to conservation; which are controversial with respect to their social justification; and which need better institutional mechanisms to make them effective and socially acceptable. These agreements need not be listed here.[3] It is sufficient to illustrate with a few examples the relation between commodity agreements and conservation.

For flow resources, commodity agreements relevant here are those concerning timber (agreements of 1933 and 1934, Copenhagen

1. In the Indies and in Malaya, "ladang" is the field of the shifting cultivator cleared in a virgin or second-growth forest by fire and girdling. It is called "milpa" in Central America and "caiñgin" in the Philippines. A ladang is only used for one or two years. After abandonment, it is subject to accelerated erosion if it does not revert quickly to forest. Rubber trees, often planted with other crops in the first year, aid in the process of revegetation.

2. Ciriacy-Wantrup, S.v., "International Coöperation in Conservation Policy," World Economics, March–June, 1945, pp. 83–102.

3. Such lists and references to pertinent literature are available in: Intergovernmental Commodity Control Agreements, Montreal, International Labour Office, 1943; Staley, Eugene, Raw Materials in Peace and War, New York, Council of Foreign Relations, 1937. Elliot, William Y. et al, International Control in Non-Ferrous Metals, New York, 1937.

Convention of 1935), rubber (agreements of 1934 and amendments), and sugar (agreements of 1931 and 1937). The tea agreement of 1933 was neutral with respect to conservation.[4] Other commodity agreements (coffee, wheat, cotton) have not operated long enough to show their effects upon conservation; furthermore, they were dominated by political and strategic considerations connected with the war.[5]

The European Timber Exporter's Convention (E.T.E.C.), concluded at Copenhagen in 1935, and its predecessors, the gentleman's agreements of 1933 and 1934, sponsored by the International Timber Committee (C.I.B.), provided for export quotas and voluntary production restrictions of Europe's softwood lumber industry.[6] Safety clauses made it possible to exceed quotas by ten to fifteen per cent, and enforcement was rather lax. There were no provisions for better silvicultural practices. The recovery of European lumber prices in the second half of the 1930's was largely due to demand factors. The E.T.E.C., however, did little to impede this recovery Export quotas were instituted only after consultation with importing countries. Price policies were directed more at eliminating

4. Although the tea plant needs good drainage and is therefore often grown on sloping land, it is usually pruned to a bushy form that affords effective soil protection. Tea requires heavy fertilization. Growing practices include the interplanting of shade trees and green manure crops. Restrictions of production are achieved through finer plucking. Restrictions were mild in view of the fact that the main producer as well as consumer interests belonged to the same country.

5. The most important ones are the Inter-American Coffee Agreement of 1940 (the previous Brazilian coffee valorization schemes were not international agreements), the International Wheat Agreement of 1942 (the Agreement of 1933 broke down in its first year of operation), and various war-time agreements between the United States, Great Britain, and South American countries.

6. As an outcome of studies by the League of Nations undertaken at the suggestion of the Geneva Economic Conference (The Timber Problem, Its International Aspects, Geneva, League of Nations, 1932. Series of League of Nations Publications, II. Economic and Financial, 1932. II. B. 6), the International Timber Conference at Vienna in 1932 formed the Comité International de Bois (C.I.B.). This organization comprised originally Austria, Latvia, Poland, Roumania, Czechoslovakia and Yugoslavia. France joined in 1933 and other countries later. The C.I.B. served mainly to collect international statistics on supply and demand of timber. It also sponsored the International Conference of Timber Exporters at Berlin in 1933 and at Vienna in 1934, which led to the gentleman's agreements mentioned in the text. The formal convention in the following year was ratified by Austria, Finland, Poland, Roumania, Sweden, Czechoslovakia, and the U.S.S.R. The E.T.E.C. accounted for ninety-five per cent of Europe's softwood lumber exports.

short-run price fluctuation, through coördinating the marketings of the various exporting countries, than at increasing prices through overall restrictions.

Although the objectives of the E.T.E.C. were not ambitious and its accomplishments with respect to conservation insignificant, the convention may be regarded as a beginning in the right direction. A commodity agreement comprising exporting and importing countries would be helpful in solving several important conservation problems in forestry. Sudden liquidation of virgin stands, because of financial strain and need for foreign exchange, or because of changes in transportation facilities, in technology and in political relations, may temporarily cause such low prices that those cutting methods and other silvicultural practices which are necessary for proper restocking become uneconomical. Depletion of immature growing stock may be encouraged by the same factors and by high prices — which under certain conditions[7] follow low prices caused by too rapid liquidation of virgin stands.

A commodity agreement which would provide for orderly liquidation of virgin stands, which would prevent shortsighted depletion of immature forests, and which would spread practices and institutions (in the fields of tenure, taxation, and credit) suitable for sustained yield management, appears desirable from the standpoint of producers as well as consumers. Although forest products are industrial raw materials and, therefore, subject to violent changes of demand in the course of economic fluctuations, they offer good opportunities for collective control of production and marketing. The standing forest itself provides a large "buffer stock" which, under appropriate systems of tenure, taxation, and credit can be cheaply carried and adjusted. This same factor, on the other hand, facilitates "skimming," if collective control is absent (Section II). International institutions which, in the future, may facilitate the effective functioning of such control will be taken up in the next sub-section.

The International Rubber Regulation Agreement (I.R.R.A.) of 1934 was moderately successful in terms of its own objective, that is, to increase net revenues of rubber estates (not necessarily

7. For example, under the conditions prevailing in the United States before World War II. The problem of proper timing in liquidating virgin timber in the United States is discussed in: Ciriacy-Wantrup, S.v., "Multiple and optimum use of wild land under different economic conditions," Journal of Forestry, July, 1938, pp. 665–674.

of native holdings).[8] Whether it reduced the violence of price fluctuations is doubtful; in any event, success in this direction was too small to affect resource conservation. The main reason for this failure was that a system of buffer stocks was adopted too late (1938) and on an insufficient scale. The means of obtaining desired objectives were export and production quotas backed by restrictions on replanting and new planting. These means were related to soil conservation in various ways.

First, the distribution of quotas among producers, and the restrictions on replanting and new planting favored the estates at the expense of native holdings.[9] Rubber production on estates often results in accelerated erosion, because of clean-row cultivation. Native holdings resemble the natural soil-protecting forest with a much larger number of irregularly planted trees per acre (frequently three times those on estates) and small effort to weed or cultivate.[1] Discrimination against native holdings, therefore, tended toward soil depletion.

Second, no attempt was made to eliminate permanently submarginal capacity. Marketability of quotas was the only, and a rather weak, inducement to curtail production of high-cost producers to a greater extent than that of low-cost producers. Discrimination against native producers tended in the opposite direction. Lower investment, lower hired labor costs, and more flexible family labor costs are not offset by lower quality and lower price of product. Preservation of high-cost capacity will accentuate the danger of soil depletion during the next depression.

8. Little needs to be said here about the history of the I.R.R.A. (which unlike its predecessor, the Stephenson Plan 1922–1928, was an international treaty between signatory governments), its operation, and those results which are not of special interest for conservation. The extensive literature on the subject is brought up to date by two recent studies (the first pro, the second con): The History of Rubber Regulation 1934–1943, Edited by Sir Andrew McFadyean for the International Rubber Regulation Committee, London, 1944, and Knorr, K. E., World Rubber and its Regulation, Stanford University, California. 1945. Neither of these studies inquires into possible relations between soil conservation, rubber culture and the I.R.R.A.

9. For data on this point see: Knorr, K. E., op. cit. pp. 119–124.

1. In recent years this system of rubber "forestry," which for a long time was looked down upon by European experts as being due to ignorance and laziness of the natives, is spreading among estates. The technological aspects are discussed in Polhamus, Loren G., Rubber Production as Good Land Use in Tropical America (American Scientific Congress, eighth, Washington, D. C. 1940). Proceedings, Washington, Department of State, 1942, Vol. 5, pp. 179–188.

Third, the agreement made little use of the opportunity to diversify farming systems through greater emphasis on food production for the local market. One serious land-use problem in plantation agriculture is the tendency to push native peoples and their food production out of the plains, where mechanization is profitable, into the hills, where mechanization must contend with physical and economic obstacles.[2] In the hills, soil erosion makes rapid progress under the high precipitation (80–100 inches) characteristic of rubber regions and under prevailing native practices, especially periodic burning and shifting of cultivation.[3]

Fourth, the agreement offered the possibility to use labor set free by the restriction, for soil erosion control and other forms of land amelioration. Labor on estates is largely imported from China and India, and, in the short run, is fixed in terms of volume. Retention of the labor force was encouraged by year-to-year fluctuations of quotas. In the official history of the I.R.R.A., it is claimed that estates were improved under the agreement.[4] It is impossible to state precisely how significant this conservation effect of the agreement actually was.

The foregoing four points indicate in what way a rubber agreement could be beneficial for resource conservation in the future. The high cost portion of the estate rubber industry is (or will soon be) obsolete, because of the quantitative, qualitative, and economic advancement of synthetic rubber (which was accelerated by the war, but must be regarded as a basic change of economic data), and because of changes in the political, social, and economic institutions of colonial rubber regions (which, likewise, were accelerated by the war, but will continue in spite of shortsighted opposition of vested

2. In some areas this tendency is neutralized by public land policies, for example, in Java by the Agrarian Decrees of 1870. On the east coast of Sumatra and elsewhere, however, the statement in the text applies.

3. These practices are not objectionable from the standpoint of soil conservation, if ladangs are quickly reforested and if sufficient time is allowed for forest vegetation to restore soil fertility. The latter is a question of the man/land-ratio. Under the conditions of rubber areas it is estimated that serious soil erosion results if the population of shifting cultivators exceeds fifty persons per square kilometer. The impact of western civilization on native cultures has caused this "critical" ratio to be reached in many areas. For illustration see: Pelzer, Karl J., Pioneer Settlement in the Asiatic Tropics. Studies in Land Utilization and Agricultural Colonization in Southeastern Asia. American Geological Society, New York, Special Publication No. 29. 1945. 288 p.

4. McFadyean, Andrew, op. cit. p. 150.

interests). If the unavoidable adjustments in estate rubber production are to proceed without wasteful depletion of soil resources (and of human and cultural resources), a collective effort will be needed even more than in the 1930's.

It follows from the preceding paragraphs that such an effort will have to take a much broader view of stabilization than the I.R.R.A. did. A buffer stock will probably be less important in the future than in the past, because of great flexibility in the output of already established synthetic capacity — assuming that no fixed ratio between synthetic and natural rubber in the main products will be necessary for technological reasons. On the other hand, consideration of the issues raised above will be vital for success. Such issues were: reversal of discrimination against native holdings in production quotas, elimination of high cost estate producers, diversification and improvement of remaining estates, and emphasis on food production for the local market. Solution of these problems is beyond the power and the interests of rubber producers; failure to solve them will have world-wide economic and political repercussions. A rubber agreement, therefore, is of international concern.

The sugar agreement of 1931 and 1937 established export quotas for sugar-beet and sugar-cane countries, in order to enable Cuba and other cane-sugar producers selling in the open market (that is, outside of empire preferences) to make an orderly decrease of production which had expanded greatly during the first World War, when European sugar-beet production had dropped to less than one third of its former amount.[5] The effect of the 1931 agreement was largely offset by increases in sugar-beet production for home consumption and of sugar-cane production in exporting countries with a closed market (mainly members of the British Empire and possessions of the United States). In this respect the 1937 agreement was an improvement, because it set limits to the imperialization of British and American sugar trade. The agree-

5. A good basis for appraising the results of these agreements is the statistical material in Bacon, L. B. and Schloemer, F. C., World Trade in Agricultural Products. Its Growth; Its Crisis; and the New Trade Policies. International Institute of Agriculture. Rome, 1940. pp. 107–178. See also: International Sugar Conference Held in London from April 5 to May 6, 1937. I. Text of the Agreement. II. Proceedings and Documents of the Conference. League of Nations Publications. Geneva, October, 1937.

ments did not decrease the violence of price fluctuations; they made no planned use of buffer stocks.

In order to understand the relation between the sugar agreements and soil conservation, one should differentiate between sugar-beet and sugar-cane production. In European agriculture the sugar beet is a valuable crop for increasing soil productivity.[6] Sugar-cane culture, on the other hand, has played an important part in soil depletion, either by expanding into topographically unsuited areas or, in plantation areas, by forcing food production of native peoples to retreat into rough topography. Examples are Cuba, Hawaii, and Puerto Rico.[7] In the native agriculture of these islands, the traditional milpa system is still extensively employed. A sugar agreement which avoids tariff wars in the competition between beet sugar and cane sugar,[8] which prevents expansion of sugar-cane acreage into areas with erosion hazards, which reduces sugar-cane acreage in favor of a more diversified system of farming with emphasis on food production for the local market, and which provides for soil conservation practices, helps to avoid wasteful soil depletion. The agreement of 1937 tended to operate in these directions. It introduced stability in international trade policies and it aided the United States in limiting the expansion of offshore sugar-cane production (through import quotas) and in attacking the problem of diversification (through A.A.A. and S.C.S. legislation) in her possessions. Thus international coöperation proved necessary in order to find an orderly solution of the sugar problem.

In stock resources, agreements were notably numerous in the above-mentioned group of resources in which abandonment of mines under ruinous prices results in wasteful depletion. The

6. Ciriacy-Wantrup, S.v., "Soil Conservation in European Farm Management," Journal of Farm Economics, February, 1938, pp. 86–101.

7. Bowman, Robert G. Soil Erosion in Puerto Rico. Berkeley, Calif. 1941, (Typewritten) Thesis (Ph.D.), University of Calif., 1941.

8. Such a war existed before the Brussels Convention of 1902. This convention abolished export subsidies on beet sugar and limited sugar import duties. Many central European countries employed such export subsidies to increase agricultural productivity (this is an exception to the rule that export subsidies on resources always tend to depletion at home). However, subsidizing the export of beet sugar is a wasteful way to obtain soil conservation at home. Moreover, subsidies on beet sugar exports lead to countervailing duties and to increased assistance to cane sugar (British subsidies to the West Indies, assistance to United States possessions) by importing countries with a colonial interest in sugar-cane production.

economic results of these agreements have been frequently discussed.[9] For this reason, and because, with stock resources, relations between commodity agreements and conservation are rather simple, we can be brief. Impartial observers agree that during the depression after 1929 many commodity agreements increased producers' net revenues and helped to mitigate the economic pressure toward forced abandonment of mines. Restrictions, however, continued during the following upswing, when they were not needed from the standpoint of conservation. The record is spotty with respect to planned "rationalization" of an industry through concentrating output in the more efficient enterprises and maintaining the less efficient enterprises in stand-by position. Such a program was carried out successfully through the International Potash Agreement of 1926 and through domestic European potash and coal cartels. Other commodity agreements, for example, the International Tin Agreements of 1931 and 1934, encouraged, rather than prevented, the opening up of high-cost deposits. In some quarters[1] such encouragement was defended as socially desirable conservation. As explained above (Section II), wasteful depletion is the more likely result.[2] Except for limited

9. The cartels in the prewar German potash industry are discussed in: Liefmann, Robert; Cartels, Concerns and Trusts (London, 1932). The international potash agreements in the postwar period and the nitrate agreements are treated in: Wallace, Benjamin B. and Edminister, Lynn R., International Control of Raw Materials, Washington, D.C., The Brookings Institution, 1930. References to an international oil agreement are found in: Feis, Herbert, Petroleum and American Foreign Policy. Stanford University, California, Food Research Institute, 1944 (Commodity Policy Studies No. 3). Agreements in bauxite (aluminum) and other non-ferrous metals are discussed in: Elliott, William, et al, op. cit.; Yates, P. L., Commodity Control, London, 1943; Knorr, K. E., Tin Under Control, Stanford University, California, 1945.

1. Defenders of tin control, for example, have argued that the sheltering of high-cost lode producers is socially desirable to conserve low-cost alluvial ores. In view of a long trend of improving mining techniques (that is, probable lower future costs) the desirable way to conserve tin ores is to prevent opening up of lode mines (abandonment of which during depression leads to wasteful depletion), and to concentrate on alluvial ores which at present cost levels are not sub-marginal in a depression.

2. This, at least, is true if we take a world-wide point of view. From the standpoint of national strategic interest it may be desirable for a country with low-cost deposits to favor a price level or a quota system under which foreign high-cost deposits available to potential enemies are depleted; to conserve domestic deposits by direct action is simple for a sovereign nation. In this connection it may be noted that the United States is pursuing an opposite policy in non-ferrous metals, for example, copper. She is a high-cost copper producer but "protects" her copper interests by high tariffs. During the de-

periods, instability of prices was not reduced, in spite of the fact that buffer-stock devices were employed in a number of agreements. In any event, it is safe to say that possible increases in price stability were not sufficient for resource conservation. Provision for practices which reduce wasteful depletion were not agreed upon, although they have been mentioned in connection with the Anglo-American Oil Agreement of 1944 (not yet ratified).

Thus, commodity agreements in the field of stock resources, with a few exceptions, have not been successful from the standpoint of this study. Should, then, the conservation argument in favor of such agreements be omitted? Such a conclusion does not appear justified. From the technical standpoint of controlling supply, effective devices to restrict and to allocate production were developed; in a few cases an industry was rationalized; the first lessons in the operation of buffer stocks were learned; the importance of outside capacity, of substitute industries, and of consumer reaction was more and more appreciated. From the standpoint of their own narrow objectives (short-range increases rather than sustained stability of producer's net revenues) many commodity agreements were successful.

The recent war has greatly increased the need for commodity agreements in the field of stock resources. Creation of much high-cost capacity, of great substitute industries, and of large quantities of scrap will raise problems of instability similar to those which led to agreements after the First World War. Depletion of stock resources has been greatly accelerated, especially in the United States. Problems of conserving stock resources for military security have already arisen (stockpiling of extra-hemisphere resources,[3] freezing of high-grade domestic resources,[4] Government research and assistance in the development of substitutes, and in the

pression of the 1930's the four cents a pound revenue tax on copper imports was practically an embargo. A similar situation prevailed for lead and zinc. Likewise, the United States tariff is a potent factor in the depletion of domestic oil resources. From the standpoint of conserving strategic resources such a policy is suicidal.

3. In December 1945 the Senate passed a bill establishing a stockpiling board with a civilian chairman to be appointed by the President. The House Military Affairs Committee, on the other hand, wants to place control of stockpiling with the Army and Navy Munitions Board.

4. Such a policy is already in force to a limited extent for oil. With respect to iron ore, the Truman Committee has recommended that the remains of high-grade ore in the Mesabi Range should be set aside as a national reserve.

utilization of presently sub-marginal grades of deposits[5]). Without some form of international understanding, such programs and, entirely inconsistent with them, high-tariff barriers on imports of stock resources will decrease rather than increase economic and political stability.[6] The war has already accelerated the political emancipation of "backward" regions producing raw materials for the industrial civilization of the "advanced" countries of western Europe and North America.[7] Depletion of stock resources in backward countries will sooner or later lead to international political, and economic repercussions, if rates and practices of depletion are not related to the development of local flow resources (agriculture, grazing, forests, water, fisheries). Otherwise, whole countries may be left in a condition which in the United States has temporarily occurred in relatively unimportant areas where abandoned mines and oil derricks left ghost towns and stranded people This issue, together with other problems of mining and drilling practices, may be approached through commodity agreements.

It appears more useful to search for institutional mechanisms

5. At present, subsidies to domestic producers of non-ferrous metals and potash are paid on the basis of marginal costs of current production. This method of payment is highly effective to hasten depletion. Although these subsidies were extended as a war measure, strong pressure is being exercised by interested groups to continue them after June 30, 1946. From the standpoint of conserving domestic strategic resources, subsidies should be paid as lump sums for research, pilot-plants and stand-by capacity rather than for meeting costs of peacetime production.

6. A strictly military stockpile would be of little use as a buffer stock, because the military would correctly object to liquidation when prices rise; historically, major wars have never started at the depth of depressions, but have broken out when prices were rising, partly under the influence of armaments to change the status quo established by the last war and "to maintain peace." A military stockpile, far from being useful as a buffer stock, may seriously interfere with the operation of the latter. The necessary size of the pile will be rather vague; even the best military minds could not give exact figures. This question of size will be subject to political pressure by interested groups at home and abroad. If, for example, at rising prices a commercial buffer stock must be liquidated, producer groups may argue convincingly that the military stockpile needs to be augmented. If prices are low, consumer interests may point to a large military stockpile as the "cause" of low prices, and may object to building up a buffer stock at the right time. This argument may, in fact, not be entirely absurd. If the trade feels that the military stockpile is subject to political pressure (as it will be, because of its indefinite size), a large stock may in a time of political changes, domestic as well as foreign, have considerable speculative influence upon prices.

7. Frequently the wellbeing of raw material countries depends on how one or a few stock resources are depleted by foreign capital. Oil in Arabia, tin in Bolivia, copper and nitrate in Chile are examples.

through which commodity agreements might become effective tools for obtaining these and other ends in the future, than to join the chorus condemning their past performance.

The Future

Our brief review of the historical evidence points to the conclusion that commodity agreements could become socially acceptable tools of conservation policy under two conditions: first, that their objectives be broadened considerably; second, that agreements are concluded and executed in the framework of international institutions with sufficient authority to induce realization of these objectives.

What kinds of objectives are relevant for avoiding wasteful depletion of flow and stock resources was indicated in the two preceding sub-sections. The types of production-control necessary to obtain these objectives do not go further in degree than did controls employed by many commodity agreements in the past; only the timing and the incidence among the various portions of resource industries would be different. Promulgation of rules about technological practices (codes) go further than provisions in the past. However, codes to avoid wasteful depletion would not be a revolutionary step in current developments. Much discussion has lately been directed to the problem of codes protecting the interests of consumer and workers in commodity agreements.[8] Codes of the kind suggested here are, or have been, parts of international conventions on fisheries, migratory birds, upland game, and scenic resources.[9]

Economic instability is a world-wide cause of wasteful depletion; repercussions of such depletion concern many countries; often, remedies cannot be applied without international coöperation; always, their application is facilitated by such coöperation. The historical evidence tended also to show that commodity agreements between the major producing countries, with or without "advisory" representation of consumers, were not interested or were powerless in attacking the problems of wasteful depletion and

8. The International Labour Code, 1939, Montreal, International Labour Office, 1941. See also: Resolution XXV of the Hot Springs Conference on Food and Agriculture. Final Act and Section Reports, Washington, D. C., 1943.

9. Ciriacy-Wantrup, S.v., International Coöperation in Conservation Policy, op. cit., pp. 83–102.

of other socially undesirable effects of economic instability. International institutions are required with sufficient authority to steer commodity agreement toward social objectives. Institutions with this promise are in the formative state. They are the Economic and Social Council and some of the functional economic organizations of the United Nations. From the standpoint of this study, the most important of these organizations are the Food and Agriculture Organization (F.A.O.) the proposed International Trade Organization (I.T.O.) and the International Bank for Reconstruction and Development (I.B.).

According to present plans, the F.A.O., which includes forestry and fisheries and which intends to make resource conservation one of its fields of activity, would have only advising functions in connection with commodity agreements.[1] Research and reporting functions, together with the institution, operation, and supervision of commodity agreements, are to be entrusted to the I.T.O., more particularly to its Commodity Commission. The Commodity Commission will be concerned with agreements for flow as well as stock resources.[2]

The question may be raised whether some separation between fact finding and operation and, accordingly, a division of labor between the F.A.O. and the I.T.O. might not be advisable from the standpoint of obtaining the social objectives of commodity agreements. The Commodity Commission will be exposed to strong pressure by governments and private interests. The F.A.O. is more likely to be further removed from pressure groups. The Commodity Commission could report only to the Executive Board of the I.T.O. The F.A.O. could make its fact finding count not only directly through representation on the Commodity Commission but also indirectly through reports to the Economic and Social Council, to the Assembly, and to member governments. The F.A.O. would be the logical agency to promulgate technical rules (codes) for commodity agreements in the field of flow resources.

1. First Report to the Governments of the United Nations by the Interim Commission on Food and Agriculture, Washington, D. C. August, 1944, p. 141. The Work of FAO. A General Report to the First Session of the Conference of the Food and Agriculture Organization of the United Nations, prepared by the Reviewing Panel and Circulated to Members of the Interim Commission by the Executive Committee. Washington, D. C. August, 1945. 57 p.

2. Proposals for Expansion of World Trade and Employment for Consideration by an International Conference. The Department of State Bulletin, December 9, 1945, pp. 912-929.

The preceding pages tried to show that such codes are important for obtaining the broader objectives in which we are interested here.

It was shown above that the remedies for wasteful soil depletion, for example, diversification of farming systems (rubber) and orderly liquidation of forests, sometimes require outside financial assistance in addition to production and marketing controls. In this case the coöperation of the I.B. would be helpful. On the other hand, the F.A.O. and the I.T.O. could assist the I.B. to avoid loans which would tend to maintain or to expand land-use systems which endanger the internal productivity and international liquidity of the borrowing country.

There are at present no plans for an organization corresponding to the F.A.O. for dealing with stock resources. The I.T.O. is to have an Industrial and Mineral Unit, but the functions of this Unit are to be purely promotional.[3] Agreements relating to "the conservation of reserves of exhaustible natural resources" are specifically excluded from the provisions for commodity agreements (Chapter V).[4] Conflicts of interest between nations and private groups will be much stronger with stock than with flow resources. Depletion and conservation of stock resources have an immediate bearing on military security. Private pressure groups are well organized and financially powerful. Technological, economic and social problems in the field of stock resources are just as important and just as complex as similar problems in the field of flow resources. A Mineral Resources Organization of the United Nations is needed fully as much as a Food and Agriculture Organization.[5] Such an organization would be complementary to the I.T.O. and the I.B., and would make possible a separation of fact-finding from operation of commodity agreements similar to that suggested above for flow resources.

Obviously, a mere framework of even the best international institutions does not transform a commodity agreement from what some people regard as the dangerous black wolf of social economics into a productive white lamb. It all depends on what the people of the world and their representatives make of these

3. Ibid. p. 929.
4. Ibid. p. 926.
5. For greater details on this proposal see: Ciriacy-Wantrup, S.v., International Coöperation in Conservation Policy, op. cit., pp. 99–102.

institutions. However, sooner or later conditions in the world markets for many raw materials will bring about attempts at collective international action. A serious effort should be made to attain social objectives from an inevitable development; avoidance of wasteful depletion is not the least of such objectives.

IV. Contribution of Conservation Policy to Economic Stability

It was suggested above (Section III) that commodity agreements and other implements of conservation policy can not be expected by themselves to increase price stability sufficiently in degree and duration to affect the state of conservation. The preceding argument for commodity agreements was, therefore, built on a different foundation. The most effective remedy for adverse effects of economic fluctuations upon the state of conservation is an attack on the causes of instability.

It is neither possible nor necessary to consider here in detail the causes of the two types of economic instability which are relevant for conservation. An explanation is possible, employing the familiar set of tools which were forged originally by Knut Wicksell and later sharpened by English, American, Swedish, and German economists. This set combines effectively the overproduction, underconsumption, and monetary theories of economic instability in a theory of saving, investment, and income formation.

Conservation policy may stimulate private investment or may furnish an important outlet for public investment. Thus, if conservation policy is properly integrated with more general policies that affect the balance of saving and investment, greater economic stability may be obtained as an important joint product.

General Requirements of an Anticyclical Conservation Policy

In attempting to outline the integration of conservation policy with more general anticyclical policies, we may consider, first, the general requirements of a successful anticyclical investment policy and the potentialities of fulfilling these requirements through conservation expenditures; and second, the special problems of timing conservation expenditures during postwar adjustment.

Judging from experience as well as from economic theory, the decrease in employment, incomes, and prices, that results from

failure to offset savings, is cumulative up to a certain point in its development. An anticyclical investment policy must, therefore, have accurate timing, sufficient immediate volume, and great flexibility in view of rapid changes in the demand (from private planning agents) for savings. Hesitancy and caution at the start necessitate greater expenditure later; and lack of flexibility may lead to inflation.

Satisfaction of the requirement for proper timing, volume, and flexibility depends largely upon the technical and economic possibility of telescoping[6] — of concentrating an anticipated long-range program within a shorter period. Conservation is superior to many other public works in this respect. Future needs for conserving most natural resources can be filled in advance without fear that the result will be diminished over time through non-use. On the contrary, with many natural resources the results of conservation effort appreciate rather than deteriorate during non-use. This is especially true of soils, forests, grasslands, and wild-life resources. On the other hand, future needs for housing, for public utilities, for roads, cannot be satisfied in advance for very long, even if they are correctly anticipated. Without use, deterioration and/or costs of maintenance would be too high.

Another aspect that is important in regard to timing, volume, and flexibility is the possibility of sectionalizing. By this term we mean the division of investment into economical units. Each section should be of a kind that can be completed at any time when completion appears desirable from the standpoint of anticyclical public policy. From this standpoint, again, conservation of soils, forests, grasslands, wild life and minerals, is well suited. Such works can be undertaken in sections without detracting from the value of the project as a whole. On the other hand, a half-finished housing project, or an incomplete system of public utilities and roads, or a partly constructed dam are not practical.

Next to the requirements with respect to timing, volume, and flexibility, we may consider the necessity of proper coördination between public and private investment. Since it is the aggregate of public *and* private investment that counts, public investment should choose outlets of such a kind that private investment is

6. This term is used in Higgins, Benjamin, "Problems of Planning Public Work," in Harris, S. E., Ed., Postwar Economic Problems, New York, 1943, pp. 187–205.

increased rather than decreased. Such coördination requires investment outlets in which public investment is complementary to, but does not compete with, private investment. Public investment should be concentrated, first, on the production of goods and services that are demanded and supplied collectively (they are largely extra-market goods); second, on the industries that are under public control. In these respects conservation of resources is also superior to other fields of public investment, because it is largely non-competitive or complementary with private investment. Extra-market values in conservation are especially important. Some socially highly significant resources, such as forests, grasslands, wild life, and water, are partly in public ownership or under direct public control.

The third general requirement of public investment is proper use of labor-intensive and material-intensive investments. These terms mean that some kinds of investment lead to a large direct increase in employment, whereas other kinds require more raw materials, construction, equipment and machinery, and thereby lead only indirectly, usually with some lag, to a large increase in employment. Sometimes, in economic fluctuations, public investment of the labor-intensive type is called for. This is true, for instance, when abnormally large frictional unemployment exists during the reconversion of industry from war to peace. In such a situation, material-intensive types of public investment would compete with private industry for scarce raw materials, equipment, and tools, would accentuate bottlenecks, and would increase the danger of inflation. In another situation, for example, during the downward phase of the business cycle or in a stagnation period, public investment of the material-intensive type would be more desirable, because of its stimulating effects upon private investment.

In conservation, some investments are labor-intensive and others capital-intensive. Proper selection of projects, therefore, makes conservation expenditure well suited for different phases of economic fluctuations. Soil and forest conservation, for example, by a Civilian Conservation Corps using available heavy army equipment (tractors, graders, and other earth-moving machinery) is labor-intensive. Measures of water conservation, irrigation and flood control (water reservoirs, checkdams, stream-channel recti-

fication, hydroelectric developments) are an example of material-intensive investments.

The fourth general requirement of public investment policy is proper regional distribution. Unemployed labor resources are not freely movable. They may be temporarily unemployed in a "permanently" superior location. On the other hand, permanently superior alternative employment may require a change of location, and public investment may be utilized to stimulate such a movement.

Public investment in conservation cannot be regionally directed at will. Such investment is always location bound. In this respect, therefore, conservation outlets are inferior to other outlets of public investment. Regional developments, for example, by the widely discussed River Authorities, are long-range programs to relieve depressed areas or to open new frontiers for investment in a secular perspective. But such developments cannot easily be fitted into anticyclical investment policies to alleviate temporary unemployment in specific localities.

Finally, the fifth requirement of a successful public investment policy is avoiding adverse repercussions upon the balance of payments position of the country engaged in such a policy and upon international monetary stability. In this respect conservation of United States stock resources deserves a preferential position as an investment outlet. Such conservation requires long-term capital exports for resource development abroad, removal of direct and indirect export subsidies on domestic resources and lowering or, better still, abolishment of tariff barriers on imports of foreign stock resources. During the postwar period such policies appear highly desirable from the standpoint of the balance of payment position of the United States and its trade partners, and from that of monetary stability throughout the world.[7]

7. The United States has emerged from this war as the world's dominant creditor nation (the present negative net-investment position of about two billion dollars is a temporary phenomenon due to the accumulation of foreign short-term balances during the war). She is the owner of a very great domestic plant for producing durable goods — a plant which, in terms of per capita physical capacity and economic efficiency, surpasses that of other countries by a margin heretofore unknown. This makes for a very strong balance of payment position in a world where all previous creditor countries (Great Britain, France, Belgium, Holland) have become capital-importers, at least for a considerable period, through direct and indirect effects of the war, and where the

Timing of Conservation Policy During Postwar Adjustment

The problem of proper timing of public investment for resource conservation during postwar adjustment appears significant enough to merit more consideration. For this purpose we may differentiate between three periods. The first is the reconversion period, the second, the adjustment period proper, and the third, the period of resumption of peace-time growth when other factors than the direct effects of the war begin to become dominant.

During the reconversion period, which (judging from the experience after the last war and from recent tendencies) may well last into the latter part of 1947, the danger of inflation exists side-by-side with bona fide unemployment.[8] By the latter is meant that unemployment not merely consists of women, students, and older men who, though leaving the ranks of the employed, apply for unemployment benefits. Unemployment in this period is of the frictional type that is caused by technical, occupational, and locational difficulties in absorbing quickly demobilized service men and war workers. Labor-intensive conservation works, for example, some of the projects of the Soil Conservation and the Forest Services, fit well into this situation.[9] There is danger that

plant of Germany, the strongest competitor in terms of capacity and efficiency, has been destroyed.

Under these conditions there are only two possibilities: either the United States will cancel both political and commercial debts, and, besides, resort to outright gifts, called by whatever name, of commodities; or it will import on a large scale raw materials and luxury goods, and export capital goods on credit for long range development. The first alternative, gifts, will not earn the lasting gratitude of beneficiaries, will not induce them to use assistance they receive most effectively, will contribute less to economic stability than the second alternative, and will involve continued if not accelerated depletion of United States stock resources.

8. Liquid funds in the hands of private enterprises, consumers, and state and local governments are plentiful, and investment stimuli strong. Bank loans and bonded debt have been reduced, and depreciation and depletion reserves accumulated; carry-back and carry-forward provisions in the corporation tax laws result in large tax refunds; the war was characterized by abnormally low consumption and abnormally large savings, resulting in an accumulation of disposable funds; payment of soldier bonuses and settlement of war contracts accentuate this situation; large credits to foreign countries are being given or contemplated. On the other hand, production of peace goods increases only gradually, because of numerous bottlenecks and social and political friction.

9. Soil and Water Conservation Needs Estimates for the United States. United States Department of Agriculture, Soil Conservation Service, Washington, D. C., Revised June, 1945. Forests and Employment. Report of the Chief of the Forest Service, United States Department of Agriculture, 1945.

One other contribution of conservation policy to economic stability during this period deserves mentioning. Full employment is a dynamic concept. Increasing productivity of labor and increasing per capita real income can be expected. People, therefore, will spend less time in work and more in play. This trend should be assisted and guided, rather than restricted. Greater opportunities for planning leisure in a socially desirable way should be provided. Out-of-door recreation will, for example, be more and more in demand. By developing the recreational resources of wild land,[4] conservation policy may not only aid in alleviating unemployment during economic fluctuations, but may also reduce the problems of adaption that are inherent in changes of the quantitative meaning of full employment.

With respect to the timing of capital export for the development of stock resources abroad, an economic argument could be made in favor of confining United States foreign lending during the reconversion period to those operations which are necessary to mitigate short-run difficulties in the postwar adjustment of international payments (for example, Export-Import Bank loans, British loan, commitments through the International Bank and Fund), and to postpone other foreign lending until the domestic saving-investment balance warrants, that is until the second and third periods. Such an argument, however, would be of little relevance, because timing and direction of United States foreign lending probably will be influenced by viewpoints other than that of economic stability.

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Congress; H.R. 5377, Seventy-Eighth Congress; H.R. 5410, Seventy-Eighth Congress; and especially H.R. 1824, Seventy-Ninth Congress (Rankin Bill) and S. 555, Seventy-Ninth Congress (Murray Bill).

4. Ciriacy-Wantrup, S.v., Multiple and optimum use of wild land under different economic conditions, op. cit., pp. 671–674.

NOTES ON UTILITY THEORY AND DEMAND EQUATIONS

If one takes quite seriously the point of view of Slutsky, Hicks and Allen, toward which Pareto seems to have been working at the end of his life, namely, that not the utility but only the utility-index is significant for economic theory, the marginal utilities, including the marginal utility of money, are without reality, because their values are not independent of the transformation from u to $F(u)$, i.e. they are not expressible in terms of the indifference surfaces alone.

When one wishes, therefore, to revert to the older utility theory, one should presumably use some qualifying adjective such as *cardinal* with the term utility, as Samuelson[1] does in his discussion of the question of the constancy of the marginal utility of income (money), which he carries on against a general background of the cardinal utility theory, but actually with the demand equations rather than with the utility function. This matter is of sufficient historical importance so that a recapitulation is justified.

1. If u be the utility function, $x_1, x_2, \cdots, x_n$ the goods, $p_1, p_2, \cdots, p_n$ the prices, I the income and m the marginal utility of income, the equilibrium conditions are

$$u_i = mp_i, \quad i=1, 2, \cdots, n; \quad m = \Sigma u_i x_i / I. \tag{1}$$

As the equations then become

$$u_i = \frac{p_i}{I} \Sigma u_i x_i, \quad x_i = \Phi_i \left(\frac{p_1}{I}, \frac{p_2}{I}, \cdots, \frac{p_n}{I} \right) \tag{2}$$

must be the demand equations, which are therefore functions of the ratios of prices to income. The homogeneity principle is thus a consequence of the utility theory, not an independent principle, albeit one might naturally enough postulate that if income and prices were all multipled by any factor, the consumer would purchase the same quantity of each good.

We may observe that if the equilibrium values of x_i be sub-

1. P. A. Samuelson, "Constancy of the Marginal Utility of Income," in Studies in Mathematical Economics and Econometrics, edited by Lange, et al., Chicago University Press.

stituted in u, u becomes a function of the ratio p/I, and thus a function of I alone if the prices be considered as fixed. Then

$$\left(\frac{du}{dI}\right)_p = \Sigma u_i \frac{\partial x_i}{\partial I} = m\Sigma p_i \frac{\partial x_i}{\partial I} = m$$

since $I = \Sigma p_i x_i$. Hence for fixed prices the marginal utility of income is the derivative of utility by income when the utility for any income is the maximum obtainable with that income.

Then the marginal utility of income is some function of these ratios divided by I

$$m = \psi(p_1/I, p_2/I, \cdots, p_n/I) \div I. \tag{3}$$

If m is independent of the prices, $m = C/I$, when C is a constant. The equation for m may be written as $\Sigma u_i x_i = C$, a linear partial differential equation, of which the general integral is

$$F(C \log x_1 - u, C \log x_2 - u, \cdots, C \log x_n - u) = 0$$

or, if one prefers a solved, though asymmetric, form,

$$u = C \log x_1 + F(x_2/x_1, \cdots, x_n/x_1).$$

Samuelson's theorem that for given prices, the quantities of goods purchased are proportional to the income, when the marginal utility of income is independent of the prices, follows readily from this type of utility function.[2]

Samuelson treats also the case of constancy of marginal utility of money (the numéraire) relative to other prices and income. In a money economy, money is the only numéraire one could think of using. The budget equation $I = x_1 + p_2x_2 + \cdots + p_nx_n$ simply means that the consumer purchases certain amounts x_2, $\cdots$, x_n of $n-1$ goods in the market and carries an amount of income x_1 into his reserve. The equilibrium equations are

$$u_1 = m, \quad u_i = mp_i, \quad i = 2, \cdots, n,$$

from which m, x_1, x_2, $\cdots$, x_n may be expressed in terms of p_2, $\cdots$, p_n and I. Now if m does not depend on p_2, $\cdots$, p_n and I,

2. Using the second form,

$$u_1 = \frac{C}{x_1} - \frac{x_2}{x_1^2}F_2 - \cdots - \frac{x_n}{x_1^2}F_n,\ u_i = \frac{1}{x_i}F_i,\ i \neq 1,$$

where $F_2, \cdots, F_n$ denote derivatives with respect to the ratios $x_2/x_1, \cdots, x_n/x_1$.

$$mp_1 = \frac{Cp_1}{I} = u_1, \quad mp_i = \frac{Cp_i}{I}u_i, \quad i \neq 1$$

are the equations in $x_1/I, x_2/I, \cdots, x_n/I$ and $p_1, p_2, \cdots, p_n$.

in terms of which $x_1, x_2, \cdots, x_n$ are expressed as independent variables, m cannot depend on $x_1, x_2, \cdots, x_n$ and must be truly a constant $m=C$. The equation $u_1=m$ thus leads to

$$u=Cx_1+\Phi(x_2, \cdots, x_n)$$

as Samuelson shows by another argument, and

$$x_1=I-\psi(p_2, \cdots, p_n)$$

so that when with constant prices $p_2, \cdots, p_n$ there is an increase in I, the whole increase is carried into the cash reserve.

As Samuelson remarks, this finding is contrary to the revelations of budget studies and thus is not tenable in general. It may well be, however, that there are consumers of whom it is true. The miser is supposed to be satisfied with a very modest subsistence and to hoard all the rest of his income; it is possible that a good many persons whom we should not call misers are satisfied with a certain standard of living, and carry to reserve or give away any increase above that required for it.

There is an interesting case when the marginal utility m as a function of the ratios p_i/I and I does not depend on I and is therefore a function of the prices p_i alone. This means that in (3), ψ is homogeneous of degree -1 in the ratios p_i/I. If U be the fundamental bordered determinant and U_0 be the cofactor of the 0 in its upper left-hand corner, it may readily be shown that

$$-\frac{1}{m^2}\frac{\partial m}{\partial I}=\frac{\partial m^{-1}}{\partial I}=\frac{U_0}{U}=\frac{1}{U}\frac{\partial(u_1, u_2, \cdots, u_n)}{\partial(x_1, x_2, \cdots, x_n)}.$$

If then $\partial m/\partial I=0$, the Jacobian of u_i by x_j is zero and the u_i are functionally related, i.e.

$$F(u_1, u_2, \cdots, u_n)=0 \quad \text{or} \quad u_1=f(u_2, \cdots, u_n).$$

A solution is

$$u=f(a_2, \cdots, a_n)x_1+a_2x_2+\cdots+a_nx_n+\varphi(a_2, \cdots, a_n)$$

containing two arbitrary functions f and φ of the parameters $a_2, \cdots, a_n$. The elimination of these parameters by the $n-1$ derivative equations

$$0=f_ix_1+x_i+\varphi_i, \quad i=2, \cdots, n,$$

will give the general integral[3], f_i and φ_i being the derivatives of f and φ with respect to a_i.

3. If one starts with $u_1=u_2^2$, $u=a^2x_1+ax_2-ka$, one finds that $m=p_1/p_2^2$ and the conditions for positive prices and for stability are satisfied if $x_2<k$. A simple example is also $u=x_1^{a_1}x_2^{a_2}\cdots x_n^{a_n}$ with $\Sigma a=1$, where $m=a_1^{a_1}\cdots a_n^{a_n}p_1^{-a_1}\cdots p_n^{-a_n}$. It may be observed that although $\partial x_i=\partial I=m\,U_i/U$ is invariant of a change from u to $F(u)$. That is not true of U_0/U or of mU_0/U.

2. There is a further consideration of interest sufficient to merit attention. It is assumed in utility theory that the utility function u depends only on the goods $x_1, x_2, \cdots, x_n$ and not upon the income I. It might be observed that with increase of income the satisfaction obtained from a certain set of goods might be less than with smaller income. We are in fact familiar with the person who seems actually to be ashamed of the standard of living to which he is accustomed, if he has an increase of income. One might therefore examine the consequences of the hypothesis that $u(x_1, x_2, \cdots, x_n; I)$ depends explicitly upon the income. One would have to maximize u for constant I subject to the budget equation. The equations for equilibrium would still be

$$u_i = m\,p_i, \qquad \text{with } m = \Sigma u_i x_i / I,$$

$$u_i = \frac{p_i}{I}\,\Sigma u_i x_i, \quad \text{but } x_i = \Phi_i\left(\frac{p_1}{I}, \cdots, \frac{p_n}{I}, I\right).$$

It can no longer be assumed that x_i depends only on the ratios of prices to income. Thus the homogeneity theorem is no longer valid in general. If it be interpreted that "of course, with doubled prices and income, the rational consumer would purchase the same goods," one could reply that any notions the consumer may have with respect to "fair" prices might well modify his reaction to doubled prices and income, so that he would not purchase the same quantities.

Futhermore, although in general one may not affirm that the demand equations depend only on the ratios p_i/I, when the utility function contains I explicitly, it may be seen that any utility function of the form $v = f(u, I)$, where u is a function of $x_1, x_2, \cdots, x_n$ alone must have the same demand equations as u or $v = f(u)$. For

$$v_i = f_u u_i = m p_i\,, \qquad p_i = \frac{f_u u_i}{m}$$

$$m = f_u \frac{\Sigma u_i x_i}{I}, \qquad u_i = \frac{\Sigma u_i x_i}{I} p_i$$

and these last equations are free from the derivative f_u and of the identical form with those for u itself. On the other hand, such a relatively simple utility function as

$$u = aI^{-\alpha} \log x_1 + bI^{-\beta} \log x_2, \qquad \alpha \neq \beta,$$

which means that, as I increases, the satisfaction derived from given amounts of x_1 and x_2 diminishes, but diminishes at different rates relative to I for x_1 and x_2, leads to the solution

$$x_1 = \frac{a}{a+bI^{\alpha-\beta}}\frac{I}{p_1}, \qquad x_2 = \frac{b}{b+aI^{\beta-\alpha}}\frac{I}{p_2}$$

which are demand equations depending explicitly on I in addition to the ratios p_i/I.

It may be noted that this simple illustration is sufficient to show that the usual "integrability condition"

$$\frac{\partial x_2}{\partial p_1} + x_1\frac{\partial x_2}{\partial I} = \frac{\partial x_1}{\partial p_2} + x_2\frac{\partial x_1}{\partial I}$$

no longer holds in general when the utility function depends explicitly on the income, and further that

$$m = \frac{aI^{-\alpha}+bI^{-\beta}}{I} \text{ is no longer } \left(\frac{du}{dI}\right)_p.$$

Therefore, if we wish to take the Lagrangian multiplier m which satisfies the relation

$$m = \frac{u_1}{p_1} = \frac{u_2}{p_2} = \cdots = \frac{u_n}{p_n}$$

as the marginal utility of income (or money), we may no longer regard that marginal utility as the derivative of the utility with respect to income when passing from one equilibrium position to another under fixed prices but changing income.

If one should seek the form of $u(x_1, x_2, \cdots, x_n, I)$ which would make the marginal utility of income constant, and if one should take m as the marginal utility of income, one need only integrate the partial differential equation.

$$m = \frac{x_1}{I}\frac{\partial u}{\partial x_1} + \frac{x_2}{I}\frac{\partial u}{\partial x_2} + \cdots \frac{x_n}{I}\frac{\partial u}{\partial x_n} + \frac{0}{I}\frac{\partial u}{\partial I} = C.$$

The general integral is

$$u = CI \log x_1 + F[x_2/x_1, \cdots, x_n/x_1; I]$$

where F is an arbitrary function. It will be noted that, for this value of u, the quantity m is independent alike of the prices and of income, a situation impossible when u does not depend explicitly on I. Moreover, it is no longer inferable that at fixed prices and changing income the amounts of goods purchased will be proportional to income.

One might pursue the theory of utility functions which depend explicitly on income considerably further, but enough has been seen already to show that there are major changes in utility theory introduced by this modification of the form admissible for the utility function.

3. Henry Schultz in his major work, The Theory and Measurement of Demand, used principally two types of demand equations,

$$x_i = \Sigma_j a_{ij} p_j + a_i I + b_i, \quad \text{or} \quad \log x_i = \Sigma_i a_{ij} \log p_j + a_i \log I + b_i,$$

In words, he assumed that the quantities demanded were linear functions of prices and income or that the logarithms of quantities were linear functions of the logarithms of prices and the logarithm of income. Certainly, for a statistician who desires merely the best empirical relation between the dependent and independent variables, the form of the assumed relationship is subject only to his convenience. Schultz, however, laid great stress on the necessity, or at any rate the advantage, of a theoretical background for his demand studies, and he used the results of his statistical regression equations to check such a theoretical relation as the equations of integrability.

As a demand equation $f(x_1, p_1, \cdots, p_n; I) = 0$ is really a partial differential equation for the utility function u by virtue of the $p_i = Iu_i/\Sigma u_i x_i$, demand equations of a given type, whether in the variables or in their logarithms, are not necessarily possible, and in fact linear demand functions of either type assumed by Schultz are impossible except as linear approximations, valid over a restricted range, for whatever may be the unknown true demand equations. However, if we are to base the theory of demand upon utility theory, and do not wish to develop a theory of utility functions dependent explicitly upon income, we have to admit that the quantities x_i are not functions of p_j and I but of the ratios p_j/I, and that presumably the theoretical linear approximations should also depend only on the ratios p_j/I. The first form used by Schultz is not of that type, and the second is not either, unless $\Sigma_j a_{ij} + a_i = 0$ for every i. However, it cannot be expected that, when only three items, on which only 8 per cent of income is spent are explicitly under consideration, the quantities purchased should be independent of income; but it is easy to throw the second (logarithmic) equations into a form which exhibits the

demand as functions of the ratios of price to income and of income.

If we write Schultz's equation (Table 64, p. 641) as

$$\log x_b = 1.2302 - .8576 \log \frac{p_b}{I} + .0955 \log \frac{p_p}{I} + .2010 \log \frac{p_m}{I} - .0801 \log I,$$

$$\log x_p = 1.1948 + .1945 \log \frac{p_b}{I} - .7009 \log \frac{p_p}{I} - .0037 \log \frac{p_m}{I} + .0321 \log I,$$

$$\log x_m = 1.5377 + .6347 \log \frac{p_b}{I} + .3669 \log \frac{p_p}{I} - .7951 \log \frac{p_m}{I} - .6084 \log I,$$

where x_b, x_p, x_m are the quantities of beef, pork and mutton in pounds annually consumed per capita, and p_b, p_p, p_m are the prices thereof in cents per pound, and I is per capita income in dollars, it appears that when the ratio of price to income remains constant, a one per cent increase in income decreases the consumption of beef by eight hundredths of one per cent (i.e. by about eight tenths of an ounce per annum), increases the consumption of pork by thirty-two thousandths of one per cent (i.e. by about thirty-five hundredths of an ounce per annum), but decreases the consumption of mutton by sixty-one hundredths of one per cent (i.e. by about fifty-six hundredths of an ounce per annum).

It is unlikely that any of the coefficients $-.081$, $+.0321$, $-.6084$ of $\log I$ in the above expressions is statistically significant, though possibly the last may be[4]. One simple calculation is of interest. From the data of Schultz's Table 61, p. 634, the total amount spent for beef, pork and mutton may be had and converted into a percentage of income. These percentages vary only from 7.531 to 8.339 about a mean of 7.966, whereas income varies from 504.5 to 688.1 about a mean of 623.1. The correlation between $\log I$ and the logarithm of the percentage of income spent for the three meats is $-.484$, which for 12 elements is not quite significant

4. Schultz gives the standard deviation of the coefficients in the equations as he writes them, but as he does not give the correlation coefficients between them it is impossible to obtain the standard deviations of the coefficients of $\log I$ in the form in which the equations are now written without recomputing the equations from the data.

at the 0.1 level. The slope of the regression line for the logarithm of the ratio against the logarithm of income is −.145, and thus a one per cent increase in income brings about a drop of about one seventh of one per cent in the ratio of the amount spent for these three meats to total income; but the trend is presumably not significant.

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A MEASURE OF MONOPOLY IN SELLING[1]

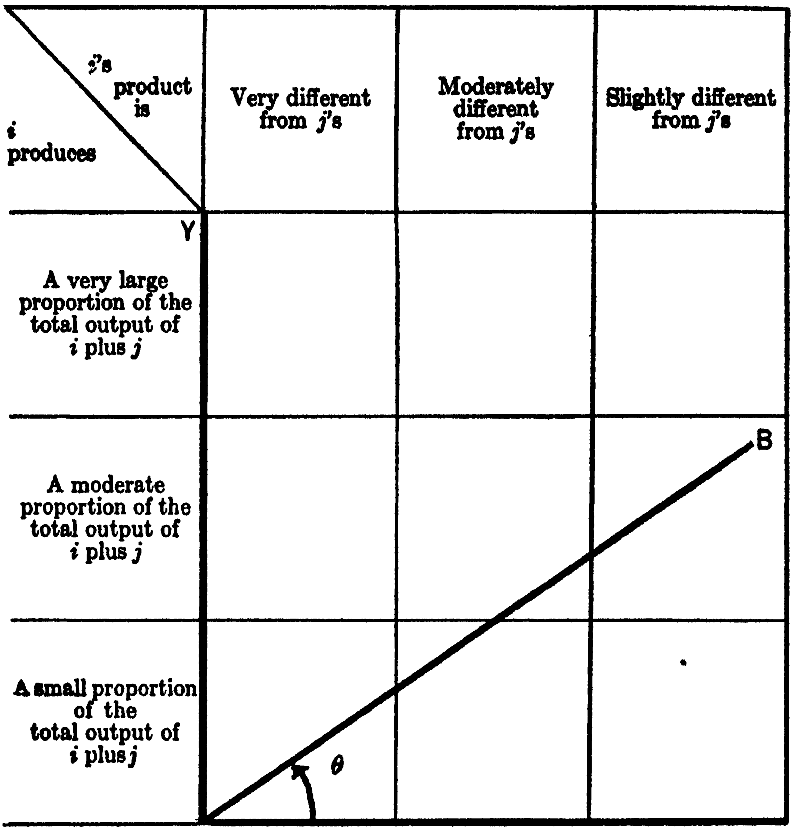
The development of monopolistic (or imperfect) competition at the hands of Triffin and Kaldor[2] implies that "industry" or "group" can be unambiguously defined only from the viewpoint of the individual seller. The "group" consists of those firms whose competition is significant to the individual seller. Competitive relationships among firms of the group are not necessarily symmetrical. Seller i may be an important competitor of j; but j is not an important competitor of i if j's output is small relative to i's, or if j's type of product could, at most, supplant only a small portion of i's output. Since the boundary of the group is not necessarily the same for each of a number of related sellers, it is possible — though not likely — that there might, in an economy which has 1,000,000 firms, be as many as 1,000,000 groups.

The purpose of this note is to present a graphic representation of the causes of the monopolistic status of i with respect to any other firm j. The analysis is in terms of price competition only. We use, with a modest qualification, Triffin's criterion of degree of monopoly. A firm i is said to have a complete monopoly with respect to a firm or firms j when $\frac{\delta q_i}{q_i}\frac{p_j}{\delta p_j}=0$, where q is quantity of sales, p is price of product, and j is any single firm or n firms following identical price policies.[3] A firm is said to be purely competitive when the coefficient $\frac{\delta q_i}{q_i}\frac{p_j}{\delta p_j}=\infty$;

1. I am grateful for the generous suggestions of Professor Edward H. Chamberlin, which have improved the formulation of this note.

2. Robert Triffin, Monopolistic Competition and General Equilibrium Theory (Cambridge, 1940), p. 88 and elsewhere; Nicholas Kaldor, "Market Imperfection and Excess Capacity," Economica II (1935), pp. 38–39, and "Mrs. Robinson's 'Economics of Imperfect Competition,'" Economica I (1934), pp. 339–340. Cf. also Chamberlin, Theory of Monopolistic Competition (Cambridge, 1938), pp. 102–104, 151–154.

3. Dr. Triffin's definition of "pure monopoly" (p. 100 and p. 103) as existent when a price change by any firm j has no influence on the total revenue (or quantity sold) of the firm in question i, appears to be subject to the same criticism that he raises (pp. 129–130) against Dr. Sweezy's definition of monopoly: it holds for pure competition in the Chamberlin or perfect competi-



Such insulation from a competitor as a seller is able to achieve is due to two aspects of his situation: (*a*) the extent to which his product is differentiated; and/or (*b*) the proportion sold by him of the total output of himself and competitor taken together. These two aspects may be combined graphically to illustrate the range

tion in the Robinson sense, as well as for pure monopoly. For if firm *j* provides a negligible part of total market supply (presumably because of rising marginal costs with larger output), then a drop in its price will not appreciably affect *i*'s revenue. All that will happen is that some few buyers on the market reap a windfall advantage in consequence of *j*'s philanthropy. Seller *j* provides too small a part of the total market supply to affect appreciably the general situation.

In order to block out this awkward result of the plain Triffin definition, we have taken *j* above to refer to *n* firms following identical price policies, in addition to one firm only. (Cf. Triffin, p. 132, for the fringe-end case.)

of situation which leads to corresponding variation in the value of the coefficient from zero to infinity. The boxes rather arbitrarily identify portions of a continuous range.

One can illustrate graphically on such a figure the relation of the coefficient to different possible combinations of the causes of any particular monopoly position. The degree of monopoly is measured by the angle θ of a radius vector whose origin is 0, and whose limits are OX and OY. The value assigned to θ is such that $Ctn\ \theta = \frac{\delta q_i\ p_j}{q_i\ \delta p_j}$. Along any such radius vector, as we move out from the origin at 0, the effect on i's monopolistic position of decreased differentiation of product is offset by an increased proportion of the total output of i and j; and vice versa. Thus different points on any such line illustrate different combinations, consistent with a given degree of monopoly, of the two causes of monopoly power.

For sales policy changes and for product differentiating it is not possible to use an index for monopoly of the type of that above. Heaven alone knows what a "percentage change in type of product" or "percentage change in sales policies" means. Dr. Triffin suggests in this connection an elasticity formula of the type $\frac{\delta q_i\ x_j}{q_i\ \delta x_j}$, "where x_j may be taken to represent successively all the various elements (other than price) such as advertising, etc. . . . through which j may affect his sales and the revenue of his competitors."[4] Evidently x_j denotes money outlay required to differentiate product or alter sales policies. But often no money outlay need be made, or costs may even be lessened by the change. In these matters innovation is of the essence. Must we say in such instances that (since the value of the index will be indefinitely large, or negative) pure competition exists, or some new species of competition? The criterion does not appear useful.

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4. Op. cit., p. 98.

"EQUILIBRIUM IN MULTI-PROCESS INDUSTRIES" —FURTHER COMMENTS

According to Mr. Eiteman (this JOURNAL, February, 1945, pp. 280–286), additional input in any one department of a multi-process firm will probably not increase final output at all; a correctly proportioned combination of simultaneous additions to all departments is needed, and the output value of an additional input unit will vary among departments, and even within a given department, as additional units are applied. Therefore there can be no marginal productivity rate for the plant as a whole. Moreover, both "actual" and "normal" systems of cost accounting make it appear as if "increases in the scale of plant operation, up to the point where overtime pay is required, always lead to lower unit costs." In short, "the problems of departmental synchronization . . . dwarf considerations of marginal efficiency." While Mr. Eiteman emphasized labor input, his argument was perfectly general, and could apply to any factor of production. Some additional comments seem warranted.

I

The optimum scale, or level, of operations for a department as a *producer* has no necessary relation with its sufficiency as an intrafirm *supplier*. When several departments are involved, the mathematical probability of successive optima soon becomes negligible. Either one department is favored, and the rest forced to adapt their output to it, or else there is a rough-and-ready equilibrium, with some consideration being shown all departments, and all more or less out of line. Unless, therefore, integration is a technical necessity, the integrated enterprise will tend to be less efficient than an aggregate of individual, unintegrated firms.

Of course, the industry as a whole must integrate its operations through the market mechanism. But the more units that compose it, the more the opportunities to buy, or dispose of, such amounts of product as will enable the utilizing, or selling, firm to operate at minimum cost. The integrated firm, in this respect, is both too large and too small for maximum efficiency. It may have more freedom of action financially, but this very advantage renders it more "cabin'd, cribb'd, confin'd" by technical requirements.

An integrated firm might try to make the best of both worlds by operating each department at its most efficient scale, (*a*) selling any excess that "later" departments could not absorb, and (*b*) buying semi-finished goods that "earlier" departments could not fully supply. Examples of both types come readily enough to mind (e.g. the Aluminum Company of America, which monopolized the production of ingots, fabricated only a portion of them, and sold the rest, and (*b*) the automobile industry). But it is doubtful, to say the least, whether avoidance of waste has been as important as the ability to absorb part of the profits from, and transfer some of the risks to, relatively numerous and weak customers or suppliers, or simply to guard against monopolistic practices by suppliers. The latter consideration is a sacrifice of efficiency to gain security, and the fear of being caught short, or held up, is usually more important in deciding whether to buy or make, than simply the desire for minimum costs.[1] The menace ot uneconomic suppliers' monopolies breeds a wasteful integration; thus market imperfections proliferate. In any case, the frequently irrational joining of the producer and supplier functions is seldom considered in isolation. As a matter of dollars and cents, it is usually less important than market control.

II

The absence, for any given factor, of a single marginal productivity rate holding throughout the firm is not of great importance for business policy. (A changing rate within a department is simply the orthodox curvilinear production function.) Management calculates the cost involved in any proposed action by adding up the department estimates. The cost of an additional order accepted or refused, a proposed expansion or contraction of operations — these are the applications of marginal cost analysis in the business world, and multi-process operations are no bar to their use.

Moreover, the "standard," or "normal," cost system involves a set of budget estimates, i.e. *ex-ante* calculations of costs at various levels of output. Possible increments in output are thereby compared with the costs incurred. But although the concept is explicitly marginal, even *within* any given department, where Mr. Eiteman's objections would not apply, there are nevertheless

1. Cf. Burns, The Decline of Competition, pp. 422–425.

severe limits to the extent to which management can really put it into effect. Theoretically, we could subdivide the budget estimates sufficiently to calculate the cost at any level of operations, of an additional worker, or pound of raw material. But in most cases,[2] this would be a meaningless gesture. Even if we could buy factors in single units, the cost of doing so would be prohibitive. Aside from this difficulty, facts of variable costs are not often reliable enough. Even when a prospective decrease in aggregate labor costs can be forecast with reasonable accuracy by reckoning with the wages and skills of present employees dismissed, an estimate of increase would often require an impossibly detailed knowledge of the local labor market.

The allocation of overhead costs to particular groups of product, or periods of operations, is notoriously difficult. Depreciation, in particular, cannot be calculated with any degree of precision, even in retrospect. In order to estimate how much of the value of an asset disappeared during the past year, it is necessary to know what proportion of total service life was absorbed, and therefore how long and how useful (however defined) a life it still has remaining. Thus, even the supposed recording of accomplished fact turns out to involve not only uncertainty but prophecy; how much more must this be true of estimates for the future. If, therefore, management relies chiefly on rule-of-thumb measurement of costs, the reason is not to be found in multi-process operations, nor in slavish adherence to accounting methods, but in the scantiness and unreliability of its basic data, and in the discontinuity of changes in output.

III

It was suggested above that genuine inter-departmental equilibrium, a condition where all departments approach their respective capacities together, is quite rare. In the multi-process firm, there will always be one or more departments which are "ahead of the game," and where the rate of marginal productivity is extremely

2. Where the quantities of a component part or sub-assembly are large, and finely divisible, and reliable cost data are available, it is possible to make precise estimates of marginal costs, and close comparison of alternative patterns of factor use. An interesting example is a paper presented to the National Aeronautical Meeting of the Society of Automotive Engineers by Messrs. Tsongas and Macomber of Consolidated-Vultee, and published in Aero Digest, January 1, 1945.

high: a small addition to the labor force and/or other factors would result in a disproportionately large increase in output.[3] Because the needs of other departments do not correspond, and the capacity of the department is partially wasted, there will be pressure on the lagging departments to discover a practicable means of expanding output, without their average unit "cost added" rising so fast as to outbalance the fall in the unit "cost added" of the progressive department. The relationship works both ways: if a disproportionately large decrease in the costs of one department can be obtained by decreasing output, there will be pressure to cut the other departments to fit.

Because a changing demand situation gives rise to constant changes in the level of output yielding the maximum gross revenue, and because changing techniques put one department ahead at one time, and subsequently another, the constant comparison of marginal costs is not less but more important for a multi-process firm than for an isolated producer.

IV

If we pass from the multi-process firm to a complex of related supplier-purchaser firms, it is equally true that a given increment of input may ultimately produce anything or nothing, depending on whether outputs are properly synchronized. Just as the need for intra-firm coördination prevents the equalization of marginal productivity rates, so does inter-firm and inter-industry coördination prevent the flow of resources from "less" to "more" productive uses, throughout the economic system, until productivity-remuneration ratios are equated at the margin. There is only a rather meaningless equating to zero that occurs when the proper distribution of factors has taken place.

If we assume, more realistically, that the "proper distribution" never actually takes place, then other uncertainties enter. For example, the productivity of an identical unit (or package of units) of input will vary between two identical plants, if one of them is part of an integrated firm and must exceed, or fall short of, the scale which the other finds most economical. Yet each firm may be maximizing its income from each identical property according to exactly calculated marginal costs.

3. In a similar manner, we might explain increases, through time, in the productivity coefficients of certain industries in Professor Leontief's scheme (Structure of American Economy, 1919–29).

Mr. Eiteman appears to imply that increases in the scale of operations so great as to require overtime work will necessarily lead to higher unit costs. But this will not occur, if the higher labor costs are compensated by the decreased overhead. To management, overtime is simply part of the cost of the additional business. Since the overtime hours are the additional, or final, or marginal input, the remuneration of the normal hours ought, following traditional theory, to be as high or higher, since they are almost certainly more productive. Not only integration, then, but also the ability of the firm to discriminate in the prices paid for identical factors, destroys the link between its own marginal calculations of profit and the remuneration of its factors according to their marginal productivity. Certain discriminatory practices on the market side, such as freight absorption, are symmetrical. Lower yield from, or higher cost of, additional sales does not affect the prices of previously committed factors or products.

To sum up: marginal analysis can supply a conception of business enterprise which is (like a large-scale map) valid even when highly abstract, and can sometimes fit actual conditions very closely — so long as it is applied only to profit-maximizing operations of revenues and costs. This holds regardless of the degree of industrial integration. But the need for technical coordination, and the possibilities of market control, weaken, if they do not wholly destroy, the usefulness of marginal analysis as a guide to the allocation or remuneration of factors of production.

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ERRATA

The following changes should be made in the article by Professor Leontief published in the February 1946 issue.

Page 182. Lines 7 and 8 should read

"... functions of the total employment, X_n, i.e., as $a_{n1}X_n$, $a_{n2}X_n \cdots a_{nm}X_n$"

Page 182. Equation XI should read

$-a_{1n}X_1 - a_{2n}X_2 - \cdots - a_{f-1n}X_{f-1} - a_{f+1n}X_{f+1} - \cdots$
$-a_{mn}X_m + X_n = D_n$

Table II. Column 3 heading — "Unit: 1,000,000 dollars."

RECENT PUBLICATIONS

ALDRICH, WINTHROP W. The Problem of British Credits. New York: Congress of American Industry. 1945. pp. 13.

ALLAIS, MAURICE. Économie Pure et Rendement Social. Paris: Sirey. 1945. pp. 72.

AMERICAN COUNCIL ON RACE RELATIONS. Hemmed In. Chicago: The Council 1945. pp. 14. 10 cents. [ABC's of Race Restrictive Housing Covenants.

BACHMANN, HANS. Die Konventionen von Bretton Woods. St. Gallen, Switzerland: Fehr'schen Buchhandlung. 1945. pp. 140 Fr. 8.75.

BAIN, JOE S. The Economics of the Pacific Coast Petroleum Industry. Berkeley: University of California Press. 1945. pp. 438. $6.00. [Part II: Price Behavior and Competition.]

BANK FÜR INTERNATIONALEN ZAHLUNGSAUSGLEICH. Die Devisenbestimmungen in Deutschland. Basel, Switzerland: The Bank. 1945. pp. 69. [2. Erweiterte und Ergänzte Auflage.]

BANQUE DES REGLEMENTS INTERNATIONAUX. Reglementation des Paiements avec L'Étranger. Bâle: The Bank. 1945. pp. 172.

BENEDICT, MURRAY R. A Retirement System for Farmers. Washington, D. C. National Planning Association. 1946. pp. 43. 25 cents. [Planning Pamphlet No. 49.]

BERNACER, GERMAN. La Doctrina Funcional Del Dinero. Madrid: Instituto de Economia. 1945. pp. 364.

BEUKEMA, HERMAN, AND GEER, WILLIAM M. Contemporary Foreign Governments. New York: Rinehart and Company. 1946. pp. 362. $3.50.

BROWNLEE, REBECCA JEAN. The Income Tax in Delaware. Philadelphia: University of Pennsylvania. 1944. pp. 123.

BURNS, REV. EDWARD JOHN. Some Financial Trends of Commercial Banks of Philadelphia, Pennsylvania, 1915–1941. Washington, D. C.: The Catholic University of America Press. 1945. pp. 122 $1.50.

CANADA, DEPARTMENT RECONSTRUCTION AND SUPPLY. Location and Effects of Wartime Industrial Expansion in Canada 1939–1944. Ottawa: The Department. November 1, 1945. pp. 65.

CANADA, DEPARTMENT OF LABOUR. Changes in Population and in the Labour Force. Ottawa: The Department. 1946. pp. 31.

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE. Year Book, 1945. Washington: The Endowment. 1945. pp. 166.

CED RESEARCH STAFF. Jobs and Markets. New York: McGraw-Hill Book Co. 1946. pp. 143. $1.60.

COMMITTEE FOR ECONOMIC DEVELOPMENT. Agriculture in an Expanding Economy. New York: The Committee. 1945. pp. 45.

COMMITTEE ON TAXATION AND GOVERNMENT OF THE VIRGINIA STATE CHAMBER OF COMMERCE. Opportunities for the Improvement of the Virginia State Chamber of Commerce. Richmond, Virginia: Virginia State Chamber of Commerce. 1945. pp. 178.

CORNEJO, BENJAMIN. La Competencia Imperfecta Y La Teoria Tradicional. Cordoba, Argentina: The University of Cordoba. 1945. pp. 125.

DAVIE, MAURICE R., AND KOENIG, SAMUEL. The Refugees are now Americans. New York: Public Affairs Committee. 1945. pp. 31. 10 cents. [Public Affairs Pamphlet No. 111.]

DAVIES, ERNEST COULTER AND SPRIEGEL, WILLIAM R. Principles of Business Organization. New York: Prentice-Hall. 1946. pp. 564. $6.35.

DAVIS, JACKSON, CAMPBELL, THOMAS M., AND WRONG, MARGARET. Africa Advancing. New York: The Friendship Press. 1946. pp. 230. [A Study of Rural Education and Agriculture in West Africa and the Belgian Congo.]

DEUPREE, RICHARD R. Management's Responsibility toward Stabilized Employment. New York: American Management Association. 1945. pp. 15.

DIFFIE, BAILEY W. Latin-American Civilization: Colonial Period. Harrisburg, Pennsylvania. Stackpole Sons. 1945. pp. 812.

DOUKAS, KIMON A. The French Railroads and the State. New York: Columbia University Press. 1945. pp. 287. $3.50.

FEES, L. V. The Rock River Oil Field Frauds and the United States Government. Denver: The Author. 1946. pp. 10.

FINER, DR. HERMAN. The United Nations Economic and Social Council. Boston, Massachusetts. World Peace Foundation. 1946. pp. 121. .50 cents.

FITCH, LYLE AND TAYLOR, HORACE (Editors). Planning for Jobs. Philadelphia: The Blakiston Company. 1946. pp. 463. $3.75.

FRIEDMAN, MILTON AND KUZNETS, SIMON. Income from Independent Professional Practice. New York: National Bureau of Economic Research. 1945. pp. 599. $4.50.

GROVES, HAROLD M. Postwar Taxation and Economic Progress. New York: McGraw-Hill Book Company, Inc. 1946. pp. 432. $4.50.

GURVITCH, GEORGES AND MOORE, WILBERT E. (Editors). Twentieth Century Sociology. New York: The Philosophical Library. 1945. pp. 754. $6.00.

HAIG, ROBERT MURRAY. Richmond's Financial Program. Richmond: The Richmond News Leader. 1945. pp. 58.

HALL, RAY OVID. International Payments; A Science. Washington: The Storage Bookshop. 1946. pp. 124. $4.00.

HAMMARSKJOLD, DAG. Sweden's International Credit Accommodation in 1944 and 1945. Stockholm: Svenska Handelsbanken's Index. 1945. pp. 24.

——. From Bretton Woods to Full Employment. Stockholm: Svenska Handelsbanken's Index. 1945. pp. 24.

HARRIS, SEYMOUR E. Inflation and the American Economy. New York: McGraw-Hill. 1945. pp. 559. $5.00.

HICKS, J. R. AND HICKS, U. K. The Incidence of Local Rates in Great Britain. New York: The Macmillan Company. 1945. pp. 64. $1.50.

HONIG, PIETER, AND VERDOORN, FRANS (Editors). Science and Scientists in the Netherlands Indies. New York: G. E. Stechert. 1945. pp.491. $4.00.

HUTCHINSON, KEITH. Rival Partners. New York: The MacMillan Company. 1946. pp. 262. $2.00. [America and Britain in the Postwar World].

INTERNATIONAL LABOUR OFFICE. Housing Policy. Montreal: International Labour Office. 1945. pp. 28. 25 cents.

JOHR, WALTER ADOLF. Die Nachkriegsdeflation. St. Gallen (Switzerland). Verlag der Fehr'schen Buchhandlung. 1945. pp. 275.

KAHN, ALFRED EDWARD. Great Britain in the World Economy. New York: Columbia University Press. 1946. pp. 314. $4.00.

KIDNER, FRANK L. AND NEFF, PHILIP. Los Angeles, The Economic Outlook. Los Angeles, California: The Haynes Foundation. 1946. pp. 24.

LASSWELL, HAROLD D. World Politics Faces Economics. New York: McGraw-Hill Book Company. 1945. pp. 107. $1.25. [Committee for Economic Development Research Study.]

LAWRENCE, W. B. Cost Accounting. New York: Prentice-Hall. 1946. pp. 606. $5.35.

League of Nations. Industrialization and Foreign Trade. Geneva, Switzerland: The League. 1945. pp. 167.

——. Statistical Year-Book of the League of Nations 1942–44. Geneva: The League. 1945. pp. 315.

Lowegran, Gunnar. The Forest and Forest Industries of Norrland. Stockholm: Svenska Handelsbanken's Index. 1945. pp. 63.

Mayo, Elton. The Social Problems of an Industrial Civilization. Boston, Massachusetts. Division of Research, Harvard Business School. 1945. pp. 150. $2.50.

McDiarmid, Orville John. Commercial Policy in the Canadian Economy. Cambridge. Harvard University Press. 1946. pp. 397. $4.50.

Mehr, Robert I. Mortgage Foreclosures and Property Management by Life Insurance Companies. Philadelphia: The University of Pennsylvania. 1944. pp. 124.

Ministry of Labour and National Service. Business Training Scheme. London: The Ministry. 1946. pp. 8.

Moore, Wilbert E. Economic Demography of Eastern and Southern Europe. Geneva: League of Nations. 1945. pp. 292.

——. Industrial Relations and the Social Order. New York: The MacMillan Company. 1946. pp. 555. $4.00.

Morley, Felix. The Charter of the United Nations: An Analysis. New York: The American Enterprise Association. 1946. pp. 56. 50 cents. [National Economic Problems No. 416.]

Morris, Richard B. Government and Labor in Early America. New York: Columbia University Press. 1946. pp. 557. $6.75.

Mukerjee, Radhakamal. The Indian Working Class. Bombay: Hind Kitabs. 1945. pp. 336. Rs. 12–8.

Muranjan, S. K. The Economics of Postwar India. Bombay: Hind Kitabs. 1945. pp. 98. Rs. 3–8.

National Planning Association. America Must Help Feed Europe this Winter. Washington, D. C.: The Association. 1945. pp. 16. 10 cents.

——. A National Employment Service. Washington, D. C.: The Association. 1945. pp. 8. Five cents.

Niebyl, Karl H. Studies in the Classical Theories of Money. New York: Columbia University Press. 1946. pp. 177. $2.50.

Odell, Charles Watters. An Introduction to Educational Statistics. New York: Prentice-Hall. 1946. pp. 269. $3.50.

Parmelee, Maurice. Economic Factors Influencing Railroad Employment. Chicago: U. S. Railroad Retirement Board. 1946. pp. 152.

Schultz, Theodore W. Agriculture in an Unstable Economy. New York: McGraw-Hill. 1945. pp. 299. $2.75.

Shoup, Earl L. The Government of the American People. Boston, Massachusetts. Ginn and Company. 1946. pp. 1206. $4.50.

Smithsonian Institution. Annual Report of the Board of Regents. Washington, D. C.: United States Government Printing Office. 1945. pp. 503.

Snow, Thad. A Farmer Looks at Fiscal Policy. Washington, D. C.: National Planning Association. 1945. pp. 22. 25 cents. [Pamphlet No. 48.]

Sprout, Harold and Margaret. Foundations of National Power. Princeton: Princeton University Press. 1945. pp. 774. $4.25.

Stern, Thomas Noel. Community Forests and Parks in Pennsylvania. Philadelphia: The University of Pennsylvania. 1945. pp. 28.

Stewart, Maxwell S. We Can Have Better Schools. New York: Public Affairs Committee. 1946. pp. 31. 10 cents. [Public Affairs Pamphlet No. 112.]

Stichman, Herman T. Report of the Commissioner of Housing of the State of New York. Albany: State of New York. 1945. pp. 62.

Strausz-Hupe, Robert. The Balance of Tomorrow. Philadelphia. University of Pennsylvania. 1945. pp. 302.

Stuart, John. Wings Over America. New York: Public Affairs Committee. 1946. pp. 31. 10 cents. [Public Affairs Pamphlet No. 114.]

Tasmania, State Finance Committee. The Tasmanian Economy in 1944–45. Hobart, Tasmania. H. H. Pimblett. 1945. pp. 16.

Tharp, Claude R. Social Security and Related Services in Michigan, Their Administration and Financing. Ann Arbor: University of Michigan Press. 1946. pp. 180. [Michigan Governmental Studies, No. 16.]

Thursfield, Richard Emmons. Henry Barnard's American Journal of Education. Baltimore: Johns Hopkins Press. 1946. pp. 359.

Timasheff, Nicholas S. The Great Retreat. New York: E. P. Dutton & Company. 1946. pp. 470. $5.00. [The Growth and Decline of Communism in Russia.]

Tiwari, Ramswarup D. Railways in Modern India. Bombay: The New Book Company. 1941. pp. 284.

United States Department of the Interior, Bonneville Power Administration. Report on the Columbia River Power System. Portland, Oregon. The Bonneville Power Administration. 1945. pp. 50.

United States Department of Labor. Unemployment Compensation, How it Works for Working Women. Washington, D. C.: The Department. 1945. pp. 4.

——. Women Dentists. Washington, D. C.: The Department. 1945. pp. 21 [Bulletin 203, No. 9.]

United States Department of State. Charter of the United Nations. Washington, D. C.: The Department. 1946. pp. 58. [Publication 2353; Conference Series 74.]

United States Office of Censorship. A report on the Office of Censorship. Washington, D. C.: U. S. Government Printing Office. 1945. pp. 54.

United States Securities and Exchange Commission. Investment Comny Act of 1940. Philadelphia: The Commission. 1945. [Release nums: 835–872.]

——. Securities Exchange Act of 1934. Philadelphia: The Commission. 1945. [Release Numbers: 3764–3802.]

——. Securities Act of 1933. Philadelphia: The Commission. 1945. [Release Numbers: 3110–3113.]

——. Official Summary of Security Transactions and Holdings. Philadelphia: The Commission. 1945. Vol. 11, No. 12.

——. Survey Series. Philadelphia: The Commission. 1946. Release Numbers: 89–92.]

——. Statistical Bulletin. Philadelphia: The Commission. 1945. Vol. 4, No. 11.]

——. Statistical Series. Philadelphia: The Commission. 1945. [Release Numbers: 756–759.]

VANCE, RUPERT B. All These People. Chapel Hill, North Carolina: University of North Carolina Press. 1945. pp. 503. $5.00.

VOSKUIL, WALTER H. Postwar Issues in the Petroleum Industry. Urbana, Illinois: Bureau of Economic and Business Research, University of Illinois. 1946. pp. 32. [Business Studies, No. 3.]

WERNETTE, J. Philip. Financing Full Employment: Cambridge: Harvard University Press. 1945. pp. 126. $2.00.

THE WOMAN'S FOUNDATION. Improved Family Living Through Improved Housing. New York: The Foundation. 1945. pp. 28.

——. The Place of the Family in American Life. New York: The Foundation. 1945. pp. 16.

WYTHE, GEORGE. Industry in Latin America. New York: Columbia University Press. 1945. pp. 371. $4.00.

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REFLECTIONS ON PRICE CONTROL

SUMMARY

Introduction, 475.—I. Prewar undervaluation of price control by economists as an instrument of emergency policy, 476. — II. Relation of market structure to informal rationing by the seller, 478. — III. Relation of market structure to enforcement, 480. — IV. Price inflexibility as an aid to price control, 481. — V. Conventional pricing as a further aid, 483. — VI. The period of grace between price-fixing and shortage, 484 — VII. Constant and decreasing costs in relation to price control, 485. – VIII. Concluding disclaimer, and comment on administration, 488.

The time, happily, is perhaps near when economists can consider the implications for their subject of some of the questions with which they have been occupied during the war years. It is unlikely in this exercise that price control will be overlooked. Not only did control of prices in the second World War produce an unprecedented and dramatic reordering of market phenomena, but it was also an enterprise with which a sizable minority of the country's economists were associated.

There is some danger, however, that the experience of OPA may be reëxamined too narrowly in its relation to the exigent wartime task of preventing inflation. This would be to the neglect of another opportunity — that of examining the price system in an artificially static context that peculiarly illuminates some aspects of its behavior. During the war years, if the analogy be permitted, the price system was not a living organism but a cadaver. While physiological study has been advanced by the examination of healthy specimens, it has also been immeasurably aided by dissection. So perhaps with markets.

The pages that follow make no pretense to being a final theoretical judgment on price phenomena as illuminated by price

control. They are preliminary judgments and their standing, if standing they have, is partly that they are based on notes and reflections contemporary with my service with OPA.

I

One of the more intriguing problems in the revaluation of price theory suggested by the price control experience can perhaps best be introduced by this question: why did economists before the war rather generally undervalue the efficiency of price control as an instrument of emergency policy?

That prewar doctrine led to the conclusion that price fixing was an instrument of limited utility can hardly be doubted. Though it is always a risky enterprise for one economist to attempt a consensus of his colleagues, perhaps it would have been agreed before the war that price-fixing was a useful first step in establishing special equilibria at a given price. If sugar prices were rising because supply promised to be insufficient at the ruling price, then sugar prices might usefully be fixed. But many, if not most, would have argued that the fixed price, to be effective and permanent, would have to be supported rather promptly by some system of consumer allocation or rationing. To fail to support the fixed price by such controls was to attempt to regulate prices "in a vacuum," This was a naive or even an abhorrent act, the impossibility of which politicians were always learning anew. And few economists would have advised using price control except selectively for commodities and services which war-time demand or supply had made peculiarly scarce. With the exception of Mr. Baruch[1], whom it must be said few professional economists took seriously, price control was not considered an appropriate instrument vis-à-vis general disequilibrium of supply and demand. If aggregate demand exceeded supply at ruling prices, the only effective way of maintaining a stable price level was an appropriate curtailment of demand. Merely to fix price ceilings would be to invite a large-scale conspiracy between sellers who would willingly receive and consumers (or producers) who would willingly pay more than established prices. The price-fixer would be left pathetically helpless amidst wholesale violation of his orders. But if by

1. I remember my own mild shock when, during the summer of 1941, I encountered the first professional economist of my own acquaintance — it was Professor Alvin H. Hansen — who was urging that economists give more serious consideration to the "Baruch Plan."

some magic he should succeed in holding prices, some (and I for one) would have argued that he would only have succeeded in ruining the machinery by which the economy distributes resources and rations scarce goods without providing a substitute. The cost of formal stability of prices would be a malfunctioning economy and perhaps even chaos.

These views which, justifiably or not, I have attributed to economists in general were certainly held by the economists associated with price control in its earliest days.[2] Indeed, many feared that popular pressure might force too extensive use of price ceilings and so discredit a regulatory device of definite but limited serviceability. Those fears had not been dispelled by the spring of 1942 when the General Maximum Price regulation was issued — even though Germany appeared to have had some success with a general price "stop," and the Canadian government had just initiated a highly convenient and seemingly promising experiment in blanket price control. The General Maximum Price Regulation — by all odds the most important single step in war-time price policy — was to some extent an act of desperation. By the time the Emergency Price Control Act was finally passed, early in 1942, Congress and the country believed, or had been led to believe, that vigorous administration of the law would insure reasonably stable prices. Price control, many of us felt, had been oversold. In the early months of 1942 there was a steady and sustained increase in prices. The procedures that had been devised for selective price-fixing contemplated slow and deliberate action and they were not easily redesigned. And even prompt action on many individual prices promised to take too much time and be too difficult of equitable administration. There was no prospect of taxes or compulsory savings high enough to bring aggregate demand into balance with aggregate supply, and some of us were just beginning to suspect what many have since concluded — that price stability achieved through tax and saving policies was a rainbow one might chase indefinitely. The overall ceiling was thus the only hope.

2. Mr. Henderson took a position along these lines before the House Banking and Currency Committee during hearings on the Emergency Price Control Act of 1942. In early 1941 I suggested that the appropriate sphere of war-time price control was limited to special commodity situations in a generally non-inflationary context. (Review of Economic Statistics, May, 1941, p. 82.)

The *Statement of Considerations* accompanying the GMPR, the most carefully drafted and edited document of the early OPA, shows that the authors were not sanguine — in fact several sections can now be read as rather engaging hedges against eventual failure of the Regulation. At one point the *Statement* says: "There can be no effective price control while at the same time there is so large an amount of excess purchasing power."[3] And again it states: "Without [adequate taxation, savings and wage stabilization] the ceiling would in the long run become *administratively unenforceable and socially harmful.*"[4] Those statements were made partly in the hope of stimulating collateral action on taxes and wages, partly as a warning against what was deemed to be excessive reliance on price-fixing and partly, perhaps, to protect the professional reputations of the authors of the regulation.

The simple fact is that price control has worked. If it hasn't worked well, it has at least worked to the extent of preventing a wholesale deterioration of values. And prices have been fixed in the context of a large and continuing excess of aggregate demand over supply. The concept of the "inflationary gap," as it was used in the early months of the war, was not as subtle as one might have wished and some of the arithmetic was bad. Nevertheless a gap existed; since 1942 purchasing power has exceeded the supply of goods, shortages have been widespread and there has been a good deal of involuntary saving forced by shortages. For only part of the period and for only part of the total stock of goods has demand been adjusted to supply by rationing or its equivalent. Prices, withal, have been comparatively stable. This is the disequilibrium at legislated prices that needs to be explained.

II

Rationing as an explanation of the success of price control merits specific comment. It has, of course, the well-explained effect of paring down demand and establishing a special equilibrium that is wholly stable. With reasonable enforcement, stable prices for rationed consumer goods and allocated producers goods present no mystery. Admittedly, price control has worked better for rationed than for unrationed commodities. But it has also

3. The General Maximum Price Regulation Bulletin No. 1, April 28, 1942, p. 24.

4. Ibid. Italics added.

worked moderately well for unrationed commodities. It was moderately effective for primary metals, coal, and petroleum before or after they were rationed or allocated, for houseroom throughout the war, and for scores and hundreds of other producer's and consumer's goods from (latterly) farm machinery to breakfast foods, when there were no formal controls. For these some further explanation is in order.

The core of the explanation is to be found, without much doubt, in market structures which readily permit of informal controls by the seller. Monopolistically competitive or imperfect markets lend themselves readily to these informal controls, and price control was effective because these markets are rather more common than was conventionally assumed before the war. In the purely competitive market, individual buyers and sellers are anonymous; no seller, for example, can have a specified group of buyers identified as *his* customers. All buyers and all sellers are fluidly participant in "the market." But when the number of buyers is relatively small, or the number of sellers relatively small, or both conditions obtain, the semi-abstraction of the market disappears. Then sellers and buyers are no longer anonymous; they deal with each other as individuals. It is possible for sellers (or vice versa, the buyers) to allocate scarce supplies to specific customers. If the established price is below the equilibrium price, it is possible and even rather easy for sellers to give large, habitual, or otherwise favored buyers, preference rights to what is available. In such markets, in other words, price-fixing is accompanied, pari passu, by allocation or rationing. Or, to put it another way, when the government fixes prices it delegates to sellers in imperfect markets the power to ration their customers. From some points of view this delegation of power and the possibility of its abuse might be disturbing. For present purposes it is sufficient that it was an effective buttress for price control.

The efficiency of private rationing depends, first of all, on how sharply customers are identified with the seller—if there are not too many of them, if their past purchases are a matter of record, and if the seller knows their needs and the reliability of their claims, he can ration rather effectively. The identification of buyer with seller becomes increasingly indistinct the more competitors the seller has. Then any one seller becomes less able to assume responsibility for fair distribution. One customer by luck, dil-

igence or wile is certain to get more than a fair share; others, who for that reason get less, have a powerful motive to bribe another seller into breaking the ceiling. It was commonplace in OPA experience that the primary metal markets, where sellers were few, were relatively easy to control without formal allocation. The secondary metal markets, with numerous sellers, were far more difficult to control without allocation. Even in areas or at times of substantial shortage, control of milk prices, invariably (at retail) a market with few sellers, was effective without formal rationing. An effort to control fresh vegetable markets in the spring of 1943, when there was a substantial disequilibrium at the fixed prices and where sellers are numerous, was far richer in experience than results.

III

Although the prevalence of a sympathetic market structure is the most important explanation of successful price control, there is obviously a good deal more to be explained. For one thing, while it is possible for sellers to ration their customers, this is not their most profitable course of action. It is more profitable for them simply to raise prices and break the law — and the price-fixer as well. The simple circumstance that sellers *could* charge and buyers *would* pay more than the established prices, the law notwithstanding, presumably was what broke nearly all price-fixers of record.

Without doubt the present generation of price administrators has had a more law-abiding generation of businessmen with which to deal than their even less happy predecessors. And a community that has come to regard war as a tragedy stigmatizes illegal profiteering as a more heroic age did not. The freebooting merchants who supplied the Continental or Union armies of the Civil War would be distressed at the restraints which public opinion has imposed on their descendants. Also, for the first time under OPA, price regulations have been carefully tailored to fit the practices and convenience of individual industries and even of individual firms. Price control has been a meticulously planned operation, the fruit of a sound and adult subject matter of which economists can be proud. (This was also an effort, I can't help pointing out and with some residue of feeling, that necessitated lengthy regulations and which was for that reason profoundly and unfairly

misinterpreted by superficial critics.) Finally, it was realized from the beginning that price control required enforcement. In the past, as indeed today in a number of South American countries, much price control consisted of a series of decrees from a remote central government and, since there was no machinery for enforcement, the violator was all too obviously secure in any violation.

But enforcement of price control is also easier in the imperfect than in the purely competitive market. It is obviously easier to police a few firms than many, but this is not all. In the perfectly or purely competitive market (I use the terms interchangeably to connote perfect elasticity of demand for the individual seller), the initiative in violation is, in principle, quite as likely to be taken by the buyer as the seller, just as the initiative in any legitimate price change is as likely to lie with one side as the other.

In the imperfect market, at least in those characterized by small numbers, the initiative to violate will almost always be taken by the seller, for the initiative in price changes almost always rests with him. In such markets the buyer, since he is not a party to the crime (or is unlikely so to consider himself), is more likely to report the offender. If small numbers are associated with individual firms of large size, there are other reasons why the seller must be circumspect. He has more employees, and employees that are more impersonal, to report his violations. The aberrations of a large concern have more news value than those of a small one. The large seller also has lawyers and public relations counselors to tell him to obey the law. Withal, one of the unsuspected war-time virtues of monopoly or oligopoly has been its special vulnerability to price control.

IV

Apart from its susceptibility to informal controls and to enforcement, there is one other major respect in which the imperfect or monopolistically competitive market aids the price-fixer. That is by the tendency for prices to become inflexible and even institutionalized in such markets. Where the seller has control over his prices, as by definition he has in some measure in every imperfect market, he has good reason for minimizing the frequency of change. In some instances, market control — the *entente* between sellers — can be maintained only if prices are stable; the understanding may not be sufficiently subtle or durable to survive too many ups-and-

downs. In other cases, customers (or the Department of Justice) may have become accustomed to stable prices and may be aroused if prices change. Changes in prices may also be costly either in money or administrative convenience.[5] So the perfectly wise and rational seller in an imperfect market may maximize his profits by keeping prices constant over substantial periods — to attempt to have them always at a maximum would reduce returns over time.

The phenomenon of inflexible prices had been well-observed before the war,[6] but so far as I am aware, and for good enough reasons, no one had observed that this inflexibility would greatly facilitate war-time control. Not only had buyers and sellers become accustomed to the level of the price, but they had also become familiar with the differentials, discounts, special deals and all the other appurtenances of the price structure. It is infinitely easier to continue and enforce such a settled and familiar structure than to check the upward surge of a more nearly competitive market. And there, because differentials and discounts, like the level of prices itself, change in day-to-day bargaining, no price schedule will ever conform as neatly to a past structure. So, precisely at the time when sellers or market operators lose the prospect of higher prices or speculative gains, they must alter their business to conform to rules laid down in some not very engaging government prose. For such sellers, as compared with those who have been selling at infrequently changing prices, the discomforts of price control are great. The Office of Price Administration controlled the prices of all steel mill products with far less man-power and trouble than was required for a far smaller dollar volume of steel scrap. Handlers of farm products complained with especial bitterness of OPA regulations, perhaps partly because that is their nature, but partly because their difficulties were greater. To the extent that small firms are more competitive than large ones, they had reason to be especially aggrieved by price

5. For this latter observation and phrase I am indebted to Dean Robert D. Calkins, who suggests that a surprisingly large number of decisions in both business and government are governed by this cost. He is undoubtedly right.

6. "Price Inflexibility," Review of Economic Statistics, May, 1938, by Edward S. Mason. Gardiner C. Means, The Structure of the American Economy, Part I, National Resources Planning Board, June, 1939. "The Nature and Meaning of Rigid Prices, 1894–1933," Journal of Political Economy, October, 1937, by Donald D. Humphrey and others. I venture to refer also to a paper of my own, "Monopoly Power and Price Rigidities," this Journal, May, 1936.

control. I am tempted to enunciate a rule that is all too self-evident in this discussion: it is relatively easy to fix prices that are already fixed!

V

Infrequent changes in prices may best serve the long-run earnings position of a firm or industry. There is also a strong element of convention in price-making, which works on the side of infrequent change, and which does not directly serve the goal of maximum return. Traditionally (or in textbooks, at least) custom or convention has been considered an exceptional or off-type factor. The experience of OPA, I believe, would indicate its general importance. It, too, helped the price fixer.

The stronghold of conventional or customary pricing is the resale market, namely, wholesale and retail selling. For a large proportion of all retailers and a rather smaller proportion of all retail trade, the price or toll charged for the service is a strictly conventional mark-up or "mark-on." Sometimes this is the mark-up suggested by the supplier; sometimes it is conventional with the store or trade for that particular merchandise. In either case, price control was applied to a market which had ceased to look upon price-setting as one of the exploitive or profit-making decisions on which the revenues of the business depended. Accordingly, as shortages developed, it seemed perfectly normal procedure to the radio dealer, the refrigerator dealer, or even the cigarette vendor, that he sell off his limited stock at his accustomed mark-up. Quite often he eliminated, sometimes illegally, his accustomed concessions or "markdowns," which he had looked upon as vaguely abnormal. But he did not think of exacting the new and higher markup that the market would have allowed. Had retailers attempted this on any considerable scale, as I, for one, often supposed they might, OPA enforcement would have been nearly helpless.

This whole phenomenon of customary or conventional pricing perhaps deserves more analysis than it has received. Indeed the very terms "custom" and "convention" may be deceptive. That many sellers neglect the opportunities inherent in pricing cannot be doubted. They follow the easier rule of charging what they have charged before or what someone else is charging. Pricing by custom, in this case, is a clear-cut atrophy of

market motivations; it can properly be termed a decadent alternative to what economists once called *rational* behavior. But I suspect that what is called custom is more often an indispensable simplification of what otherwise would be an inordinately complex task. The small retailer — and often the larger one — has neither the information nor the capacity to adjust his margins commodity by commodity, week by week, or season by season, so as to maximize his returns. It is of special significance, I think, that resale markets *are* the stronghold of customary pricing. Here the individual seller typically dispenses a large number of items. To arrive at a theoretically right price or margin for each would require that he solve a formidable array of simultaneous equations. He lacks the capacity for any such ideal price policy; its mental, if not its monetary, cost would be exorbitant. So he relies on rule-of-thumb. To put it another way, in the manner of many sophomores similarly situated in relation to price theory, the retailer attempts to resolve an inordinately complex problem by memorizing a few simple maxims.

VI

Another unsuspected aid to the price fixer is the margin of time that elapses between an increase in price in an uncontrolled market and the ensuing shortage of goods, if that price increase is prevented. Obviously the price-fixer is not in trouble when he fixes a price, so long as supply is sufficient at the fixed price. One clear conclusion from the experience of the Office of Price Administration is that this interlude may be considerable. Repeatedly the agency was able to forestall strong upward thrusts in prices and hold these prices, while for several months, sometimes a year or two, supply remained abundant. This period of grace was invaluable. While it lasted, the machinery for control could be perfected — a simple "freeze" translated into a workable price schedule. Enforcement was not difficult.

This experience would suggest, to speak somewhat elliptically, that the supply-demand equilibrium is a loose-jointed concept — that, in the jargon of an earlier discussion, it is "indeterminate." But some analysis is possible. In disturbed times the demand function, viewed as an independent variable, is not intimately related to current consumption. In the immediate prewar years and the early years of the war, there was much anticipatory buying

— far more than in a similar upswing of peacetime activity; for, especially after the war began, advance buying was no longer speculative in the ordinary sense — indeed, it was partly a form of insurance. Where this buying was in anticipation of price increases, i.e. where the buyer sought to avoid higher costs later or hoped to realize on increasing inventory values, price control had a remedial aspect, for it partly eliminated the motive. In the early stages of this war, business men, guided by their recollections of the last war, undoubtedly bought in anticipation of higher prices, rather than to protect themselves against absolute shortages. Price control, needless to say, does not reduce demand where the motive for advance buying is fear of shortages. It was, therefore, a more important restraint on anticipatory buying in this war than it would ever be in the future. It will be the shortages for which this war will be remembered.

I am not sure that this period of grace is peculiar to any class of market. It was noticeable in commodities — coffee, wheat, sugar, cocoa and pepper — as well as for industrial goods. Without doubt, however, it is also most markedly a phenomenon of imperfect markets, where price changes are few and the related market imperfection is oligopoly. Routine shifts in demand must ex hypothesi be accommodated at the going price. The result is some margin of excess capacity. In an inflationary context, the decision to increase prices will usually be taken before the excess capacity has been exhausted by increasing demand. If the increase is forestalled, the industry's reserve capacity will enable it to supply its markets perhaps for a considerable time. As early as December of 1941 the American Tobacco Co. initiated a sizable increase in the price of Lucky Strikes. Presumably the other majors would have soon followed suit. The increase was disallowed and, in spite of a steady increase in current consumption, there was no shortage even of individual brands for over two years.

VII

Finally, price control has been aided by an unsuspected cost behavior under conditions of expanding output. Many if not most of the economists actively associated with price control in its early phases consciously or implicitly assumed that, where large increases in production would be required, it would be at increasing cost. Some certainly had in mind the bulk-line cost curves of the first

World War (it is significant that the term has gained currency in this war) and the presumption of increasing cost implicit in these arrays.[7] For as large an industrial expansion as has occurred, they would have predicted rather general increases in prices or else the widespread use of subsidies and differential prices to compensate for higher (marginal) costs.

In retrospect, except for agriculture, the number of industries that were expanded for war purposes at increasing cost seems small. Certainly the number of manufacturing industries expanded at increasing cost was extremely small. During the early months of price control, a strenuous effort was made to gain acceptance for the principle of using subsidies to offset higher "marginal" costs in increasing-cost industries. This was successful[8], and such subsidies have been notably useful in maintaining prices of copper, other non-ferrous metals, petroleum and a number of other commodities. In a miscellany of other situations, the same result has been achieved through differential pricing. Nevertheless, the area where these policies proved appropriate was relatively small, and in the main it was the extractive industries. It is a fair conclusion that most industrial expansion during the war has been at constant or decreasing cost.

Decreasing costs may be partly attributed to the methods by which war-time capital expansion was financed. Where, for example, the government supplied plant or equipment through the Defense Plant Corporation, the existing supply of fixed plant ceased to be a factor shaping the supply curve. Provided the factors were supplied at constant cost, only the diseconomies of scale — an increasingly unfavorable combination of management with other factors — could be the cause of increasing costs, even in the short run.

In principle this question of whether war-time expansion was obtained at increasing, constant or decreasing cost has only a

7. Notably in Taussig's "Price-Fixing as seen by a Price Fixer," this Journal, February, 1919, p. 205. While there may have been others, the only industry group with an acute recollection of these bulk-line cost curves that I encountered during my service with the OPA was, appropriately enough, the anthracite producers. Members of the industry informally but urgently recommended adherence to the principle that prices be set to cover (full) costs of the highest-cost *necessary* producer. Taussig notes that the anthracite industry was a rich beneficiary of the bulk-line principle.

8. Credit for this achievement and for saving the government many millions of expenditure belongs primarily to Dr. Donald H. Wallace.

derived relation to the problem of price control. The main problem of price control and the main task of the price-fixer is to administer the disequilibrium of demand and supply. Price increases to cover the cost of high-cost output at the margin are not, in the strict sense, inflationary. They contribute to inflation only to the extent that bulk-line firms have more income to dispose which, especially if it becomes the target of wage demand, adds to the aggregate of excess demand.

In practice, however, avoidance of these price increases was most important. The community does not discriminate between price increases in an increasing cost industry and price increases that are in response to redundant demand. Any increase is, in some measure, a precedent for others.[9] In a period of general expansion of output a tendency toward constant or diminishing costs was, therefore, notably helpful.[1]

The unity of decreasing costs with market imperfection, particularly oligopoly, provided another aid for the price-fixer. Even where price covers cost by a substantial margin, it is by no means certain, especially in the short-run context of war economics, that supply will be forthcoming. Supplementary negotiation is essential to obtain the supply, i.e. to keep supply price in normal relation to cost. Such negotiation is only practical where the number of firms is relatively small. This inability to supplement price control with negotiation accounts in part for the relative ineffectiveness of price control for agricultural products. The Department of Argiculture did use propaganda on behalf of increased production with considerable success. And during 1943 proposals for entering contracts with individual farmers for expanded production were seriously debated. But, in general, increased farm production was obtained by assuming that his supply price for the quantity wanted (the "goal") was high. The prices so set have borne no relation to costs. While this course of action could be defended on grounds of expediency, it is only fair

9. Although I am inclined to believe that the fear of precedent exaggerated. In fact, experience suggests that a superficially discriminatory, but fundamentally logical, differentiation in price policy as between firms or industries can be explained to principals and even to the Courts.

1. For a large number of military items, initial contract prices were very high. As manufacturers gained experience, both in technique and in costing, prices declined spectacularly. While this phenomenon was also generally helpful to the price-fixer, it represents a secular movement not properly a part of this discussion of cost behavior.

to add that some of its authors in the Department of Agriculture would have approved it without any visible justification.

VIII

Two final observations may be in order. If it be allowed that a good many economists miscalculated the potential efficiency of price control, it is clear that the fault was less in analysis than in application. The experience of the OPA does not suggest that price control would have been effective, had it generally operated in vacuo in markets shared by the numbers of buyers and sellers commonly associated with the notion of pure or perfect competition. But if imperfect markets are assumed, then the comparative effectiveness of price control can be explained and presumably it could have been foreseen. I suppose there were few economists before the war who had much real faith in the applicability of the conventional opening chapters on the competitive market. But it is equally clear that some (myself included) had not fully accepted the implications of their apostasy.

In exploring why price control has been possible I am a little uneasy lest I appear to argue that price control has been easy. That is a conclusion which no participant is likely to reach; it is one which my own former colleagues in the enterprise would assuredly not forgive. For if a kind Providence simplified part of the task, a stern one made other parts more difficult than anyone could reasonably have expected. Certainly few guessed how adept and compelling would be the pressures brought to bear on the price-fixer. As economists for several centuries have suspected, the desire for money is one of the strongest of human motives. And as students of government have long assumed, the urge to reëlection, in its own sphere, is also potent. The price-fixer must thwart both of these aspirations — either individually or in a mighty coalition. Where price control failed — for farm products, as all too clearly suggested by the current inflation of farm land values, or in relating prices to quality standards — the failure is traceable most directly to this coalition. In both instances, the technical problems were considerable; but there is no reason to doubt that they could have been overcome.

At least as inhibiting to effective price control as politics are the administrative difficulties of the task. An approximation to equal standards for treatment had to be formulated and made

applicable to a thousand and one different industries. A staff had to be assembled and trained in a relatively subtle subject matter for the almost infinite variety of products. A large and complex piece of administrative machinery had to be built and it had to perform a difficult and diverse task at the same time. That combination of administrative and policy design and operation will always be recalled, by those responsible, as a task that looked possible only in retrospect. To anyone associated with price control during the second World War, one of the most disconcerting recollections will always be the glib dismissal by outsiders of the whole issue of administrative difficulty. Businessmen, Members of Congress and even other Executive agencies were equally inclined to wave it aside. Yet one could say of overall price control that, while it proved itself a rugged instrument of war-time economic policy, it also proved that, if initiated *de nouveau*, it is administratively all but impossible.

J. K. Galbraith.

Washington, D. C.

THE CURRENT SIGNIFICANCE OF LIQUIDITY PREFERENCE

One of the minor results of the war, which nevertheless bulks large in the field of money and banking, is the increase in our money supply and particularly the increase in idle balances. These idle balances represent, in my opinion, one of the major monetary problems of the day. They constitute an element of potential instability which conceivably may become explosive reality some day. At the same time, however, they are likely to exert a steady expansionary influence, which probably will be needed by our economy more often than not. Idle balances also will be an important factor in the management of the public debt, for they are the counterpart of the securities which savers have refused to buy and have thus forced into the banking system. One of the important tasks of monetary theory at present, therefore, is to analyze the significance of these balances, to investigate the probable motives and conduct of their holders, and to suggest policies for dealing with them.

The device outstandingly designed to deal with idle balances is the Keynesian liquidity preference doctrine.[1] In this paper I propose to investigate the means of applying this tool to some of the problems raised by present-day idle balances. I intend to investigate, in other words, how far the willingness of all kinds of investors to hold part of the increased money supply is dependent upon the rate of interest on long-term securities and related factors.

Certain not uninteresting conclusions are yielded by this approach. These naturally are subject to considerable qualifica-

1. Throughout this paper, the term "liquidity preference" is used in its narrower sense (L_2), as the demand for idle balances, not including "precautionary" and other "transactions" balances.

tions and purport no more than to establish certain probabilities, which other factors may overrule. We know that liquidity preference is not the only element governing the action of idle balances. We also know that many such balances are, in fact, quite uninfluenced by it, and that in any case people may rapidly change their views as to the desirability of holding money. Taking these qualifications into account, however, it may be said that the proposed analysis reveals some grounds for expecting that investors will be willing to hold substantial idle funds. The danger, therefore, that these balances may become a threat to economic stability seems rather less than might appear at first sight.

In order to bring the liquidity preference doctrine to bear upon the problems of idle money we shall proceed, first, to discuss certain general aspects of the doctrine and of the criticisms made of it in recent years; second, to broaden it so as to cover all funds which seem to be influenced by liquidity preference, even though not held for the eventual purchase of long term bonds; and third, to segregate the various categories of holders whose behavior might show characteristic differences. It will also be desirable to give this segregation such statistical underpinning as our present knowledge permits.

I. General Comments

It will be noted that, in proposing to use the liquidity preference doctrine for an analysis of our idle balances, we are diverging somewhat from the purpose for which Keynes chiefly designed it. Keynes was concerned with demonstrating that the interest rate was determined independently of saving and investment. Liquidity preference was made the factor which prevented entrepreneurs from obtaining the funds required for high level investment in the face of a low marginal efficiency of capital. The moral was that investors' love of money, in preference to securities, was the root of much evil. The real emphasis, however, was on the man who wanted to borrow money and couldn't.

In this paper the emphasis will be on the people who have the money, and on what they may do with it. This shift is symptomatic of our changing problems — today there is so much money about that we find ourselves forced to worry more about those who have it than those who do not.

Both approaches to the liquidity preference doctrine have in

common that they are interesting only when interest rates are low. The investment-blighting effect of liquidity preference becomes important only when rates are low, but not low enough. A large volume of idle funds, such as we are interested in, is probable only in the presence of low rates. Both approaches, therefore, focus upon a special case of the liquidity preference doctrine.

The liquidity preference doctrine has been subjected to criticism as being inadequate to explain the long-term rate of interest. While this criticism does not necessarily affect the usefulness of the theory for dealing with idle funds, a digression is called for in order to avoid confusion in the rear of our argument. The main point of the critics has been that Keynes leaves his long-term rate dangling, so to speak, by its own boot-straps. As Robertson put it, "the rate of interest is what it is because it is expected to become other than it is; if it is not expected to become other than it is, there is nothing left to tell us why it is what it is."[2] To remedy this, an attempt has been made to explain the long-term rate as an average of expected short-term rates, modified by liquidity preference. This interpretation is advanced on the ground that, algebraically, a long-term loan can be regarded as a series of short-term loans at different rates. Since to the investor the two forms of investment are alternatives, it is argued that there must be a close relationship between them. Liquidity preference thus would be expressed only as the difference between the average of expected short rates and the long rate.[3]

Whatever the merits of this modification of the doctrine as a means of giving it greater generality, the new version is of doubtful value for the purposes of realistic analysis. In the first place, it is hard to believe that, given the present rate structure, investors really are basing their view of long-term rates upon an estimate of future short-term rates, because such estimate, in order to be logical, would have to be very complicated. From the present rate structure, which is neatly reproduced each month in the Treasury Bulletin, one can calculate what current expectations of future short rates ought to be.[4] It is easy to show that expected short-

2. D. H. Robertson, Essays in Monetary Theory, London, 1940, p. 25.

3. Nicholas Kaldor, "Speculation and Economic Stability," Review of Economic Studies, October, 1939, p. 14.

4. To take a very simple example, let us assume that at a given moment the rate structure on one- two- and three-year bonds is as indicated in the first column of the table below. The second column shows the aggregate yield over

term rates must first rise for a number of years, then fall, and finally remain stable at the level of the long-term end of the present rate structure (if we assume that an extrapolation would approach the horizontal). Any other expectations would be inconsistent with the rate structure, unless the latter is so completely dominated by liquidity preference as to make expected short-term rates a minor factor. It is a priori unlikely that investors should be entertaining such complex expectations, and one may tentatively conclude, therefore, that liquidity preference is, in fact, a more important element at present.

This suspicion is confirmed by the results of an inquiry conducted in 1943 by Mr. D. B. Woodward of the Mutual Life Insurance Company, in which representatives of business, government, and academic life were questioned as to their views on future long-term rates. Among the 105 predictions received in reply, there is little or no evidence that the course of short-term rates was regarded as determining the prospect for the long rate, let alone that complicated expectations regarding short rates were being held. This seems to corroborate the a priori conclusion that at present our long-term rate probably is not determined to an important extent by expectations regarding short-term rates, in the manner suggested by Hicks and Kaldor, and that liquidity preference is probably the dominant factor. I think this appraisal would be confirmed by any market observer not familiar with the terminology sometimes unkindly referred to as "Economese," but conversant with the way bankers and investors talk about long-term bonds.

The situation may be somewhat different during periods when a more nearly horizontal or a falling rate structure prevails. Professor Hicks believes he has found some support for the view that long-term rates are based on expected short-term rates from an investigation of rate movements before and after the first World

the life of the bond (disregarding compound interest). The third column indicates the rates for one-year loans which would have to prevail in successive years in order to make the yield on a series of short-term loans equal to that on long-term loans for the same periods.

Annual yield to maturity at start of first year	Total yield to maturity	Short rate
One-year bonds......1	One-year bonds....1	First year........1
Two-year bonds.....2	Two-year bonds...4	Second year 3
Three-year bonds....2	Three-year bonds..6	Third year.. 2

War.[5] He also calculates the effect of liquidity preference, as expressed in the difference between an average of short-term rates and a lagged long-term rate. In the presence of a fairly horizontal or falling rate structure, however, liquidity preference loses much of its importance. At such times, short rates are at fairly substantial levels and idle balances then are likely to be small. This obviously reduces their weight in interest-rate determination, for it is clear that this weight depends in part upon their magnitude in relation to transactions balances. Even though the elasticity of the L_2 schedule may be considerably greater than that of the L_1 schedule, the price will obviously be determined mainly in the larger market, if the difference in size is sufficiently great.

It is true, of course, that when M_2 balances are small, liquidity preference can still express itself in the holding of short-term investments. It seems likely, however, that other factors, such as the level of short-term rates, and institutional preferences, are then the controlling elements for the long-term rate. Liquidity preference seems significant mainly in the situation for which Keynes created the doctrine: low interest rates and large idle balances, a situation in which we have seen the short-rate-long-rate relation to be questionable, or at least of minor importance. The liquidity preference doctrine of interest rates must therefore be looked upon as a special case, like various other things in the General Theory — and, like most of them, the really interesting and important case.[6]

II. Application to Equity Assets

In the General Theory Keynes limited the concept of liquidity preference to the relation between money and debts. Common stocks and other equity assets he eliminated because of their variable rate of return, believing that to do otherwise would create confusion between the effects of changes in interest rates and in the marginal efficiency of capital.[7] This greater clarity, in my opinion, is paid for rather highly in terms of comprehensiveness

5. J. R. Hicks, The Manchester School, Vol. X, No. 1, pp. 21–37.

6. This leaves us with the inconvenient conclusion that the long-term rate is determined by different factors at different times, or at least that different factors predominate. Interest theory would be neater if we could follow our natural inclination to believe in single causes or sets of causes operating at all times. The heterogeneous character of causal elements in many other fields of economics gives us no particular reason to believe, however, that a more attractive situation would prevail in connection with interest rates.

7. General Theory, p. 173.

and realism, even from the viewpoint of interest theory alone. When idle balances per se become the object of attention, it seems clear that funds held for the purchase of stocks, real estate, and other equity assets should be included. There can be little doubt that a fair proportion of currently idle funds is held for this purpose; the movements in the stock market and the real estate market during the last two years are evidence of it.

Idle balances are also held for the purchase of capital equipment and consumer goods. These funds may be affected by liquidity preference (in the L_2 sense) to a certain degree, although probably less than those held for the purchase of securities. The criterion is to what extent the holder is delaying his purchase in the expectation of a price fall, as contrasted with the mere inability, at present, to get the goods (or failure to accumulate the full purchase price or down payment). Another reason for delaying purchases may also be a sense of insecurity about the future, which would scarcely be allayed by the atmosphere surrounding a general drop in prices. The holding of idle balances on this account had best be ascribed to the precautionary motive.

The liquidity preference concept cannot be used to analyse the behavior of idle balances held primarily because of supply difficulties and for precautionary reasons. Some of these balances — those made idle by shortages — are almost sure to be spent, once the bottlenecks are broken; their effect upon the economy may therefore be taken for granted. The precautionary balances, on the other hand, may never be spent at all — once one gets into the habit and can afford it, there is always something to be afraid of — their ultimate effect, therefore, is quite uncertain.

The aggregate of the delayed supply and precautionary balances may conceivably exceed those primarily influenced by liquidity preference. This is an important quantitative qualification of the present analysis. We must bear in mind that part of the idle money supply lies beyond its scope. The qualification is serious, however, only with regard to precautionary balances, whose probable behavior remains uncertain. Of the others, we know what we need to know — that they will very probably be spent. They are no permanent problem.

To apply the liquidity preference doctrine to equity assets, we must establish a relationship between the volume of idle balances and the price of these assets. In the case of long-term bonds, it

makes no difference whether we choose price or yield, since they are uniquely related.[8] This is not the case, however, for equity assets. Their price is determined, more than by the interest rate, by their anticipated earnings, which cannot be encompassed statistically. Since their *actual* yield, or price-earnings ratio, may not reflect the *expected* counterpart, it cannot serve as a basis for establishing a functional relationship between equity assets and idle balances.

A systematic relationship between equity *prices* and idle balances, on the other hand, could be expected to exist, if investors can be assumed to have some kind of notion of a normal price or price range of equities, analogous to the notion of a "normal" interest rate relied upon by Keynes. For this assumption, the attitudes of investors and the comments found in financial literature supply fairly good evidence. One frequently hears the notion expressed in the form that stocks are "high" or "low," and it has a fairly good foundation in the experience of many years. Since the middle of the 1930's, a good many investors seem to have regarded a stock market level of 150 on the Dow-Jones Industrial Average as "normal." If the price of equities goes too far beyond the normal value, there will be an increasing tendency to limit commitments and to accumulate cash.[9] A drop in prices below the normal range will cause investors whose expectations remain unchanged to shift from cash into stocks. We may therefore draw a second kind of liquidity preference schedule, in which the demand for money figures as an increasing function of the price of equities.[1]

8. It should be noted that a unique relationship between *net* yield and price exists only in the case of riskless bonds. In the case of less than prime quality bonds, a deduction for risk premium really should be made from gross yield. This risk premium would tend to fluctuate with the marginal efficiency of capital and the earning power behind the bonds, causing the net yield to fluctuate likewise. The lower the grade of a bond, the more closely it approaches the character of equities.

9. Many investors, as said before, might shift into bonds rather than cash. It is clear that either action will be taken only by investors with a given state of liquidity preference. It is not at all certain that this type of investor predominates numerically over the other, whose hopes go up every time the market rises, i.e. who has a high elasticity of expectations. Nevertheless, as long as there are *any* investors with an invariant liquidity preference, idle funds will accumulate.

1. It has been suggested that the best way to draw this function would be to deflate prices by an index of the marginal efficiency of capital, so as to eliminate the influence of the latter. The remarks made above indicate that this would involve some bold statistics, since the marginal efficiency of capital influences equity prices through *expected* more than through current earnings.

It is interesting to observe the contrast between the notions of a normal long-term rate and a normal price of equities as regards their respective significance for the maintenance of equilibrium. It is the belief in a normal long-term rate which prevents the market rate from fluctuating sufficiently to equilibrate savings and investment. This, as we know, is the main implication of the liquidity preference doctrine in the General Theory. The notion of a normal price of equities, on the other hand, causes their expected price-earnings ratio to fluctuate contrary to the movement in the marginal efficiency of capital. This kind of movement tends to bring about equality of saving and investment whenever there is a change in the marginal efficiency of capital. That is to say, if there is a cyclical rise in marginal efficiency, equities on the whole will tend to rise less than proportionately, which makes the increase in investment which is likely to follow less than it would be if equities rose proportionately. The same applies, mutatis mutandis, to a cyclical fall.

In the case of a change in the propensity to consume, however, the notion of a normal price for equities has the same tendency to prevent saving and investment from being equated which we know to follow from the notion of a normal long-term rate. Both prevent the rate of return to the investor from moving to a level where investment would equal the new rate of saving.

Unfortunately, the effectiveness of the normal price notion in helping to bring about equality between saving and investment in the case of changes in marginal efficiency can at best be very minor, because normal price notions are not sufficiently powerful.[2]

III. Components of the Money Supply

We have now progressed sufficiently in our discussion to go into quantitative details. In Table I the increase in several elements of the money supply since 1929 is shown, together with the movement in gross national product. Table II shows some of the

However, even if the attempt were made, it would be useful for the purpose of interest rate theory rather than for an analysis of idle balances. The deflation procedure, by eliminating the effects of fluctuations in the marginal efficiency of capital on the price of equities, would show us the pure effects of fluctuations in the interest rate. We could then deal with equities precisely as with long-term bonds.

2. Normal price notions seem to be much stronger in European stock markets than in the American markets. The same is probably true for other types of assets.

TABLE I

MONEY SUPPLY AND GROSS NATIONAL PRODUCT

(In Billions of Dollars)

End of	Demand Deposits Adjusted	United States Government Deposits	Currency Outside Banks	Time Deposits		Member Bank Excess Reserves	Gross National Product	Ratio of Gross National Product to Demand Deposits Gov't Deposits and Currency
				Commercial Banks	Mutual Savings Banks and Postal Savings System			
1929	22.8	0.2	3.6	19.2	9.0	. . .	99.4	3.77
1939	29.8	0.8	6.4	15.3	11.8	5.2	88.6	2.39
1945	75.9	24.6	26.8	30.1	18.3	1.5	197.3	1.55
Percentage Increase '45 over '29	233%	. . .	644%	57%	103%	. . .	98%	. . .
Percentage Increase '45 over '39	155%	. . .	319%	97%	55%	. . .	123%	. . .

TABLE II

HOLDINGS OF DIFFERENT INVESTOR GROUPS

(In Billions of Dollars)

	Trust Funds and Financial Corporations			Personal Holdings Except Trust Funds			Non-Financial Corporations and Unincorporated Business		
Year End	Currency	Demand Deposits	Time Deposits	Currency	Demand Deposits	Time Deposits	Currency	Demand Deposits	Time Deposits
1939	0	2.3	0.3	4.2	6.8	24.1	1.6	11.8	1.9
1945	0	3.8	0.3	21.1	22.0	44.9	4.9	35.6	3.0
Absolute Increase	0	1.5	0	16.9	15.2	20.8	3.3	23.8	1.1
Increase Corresponding to Gross National Product[1]	0	...[2]	...[2]	5.2	8.4	...[2]	2.0	14.5	...[2]
Increase in Idle Funds	0	1.5	0	11.7	6.8	20.8	1.3	9.3	1.1

[1] These figures serve purely as an indication of the orders of magnitude involved and do not imply an assumption that any simple proportionality exists between gross national product and the need for transactions balances. See text.

[2] No proportionality to gross national product to be expected in this category.

same figures broken down by groups of holders. Table II also indicates the expansion in the volume of demand deposits and currency which would match the rise in gross national product, and the degree to which the actual increase exceeds this proportion. These last figures are given purely for the purpose of illustrating the orders of magnitude involved, for it is not to be presumed that the need for transaction balances is exactly proportionate to gross national product. On the contrary, there are probably many factors which tend to change this relationship over time.

The various kinds of money — currency, demand and time deposits, etc. — are indicated without any attempt at adding them up to a total. To do so would involve a definition of the general concept of money, which would be a difficult and, in its final result, a pointless undertaking. The futility of it is particularly pronounced when we are dealing with money as a store of value, and it may therefore be worthwhile to examine the problem a little more closely.

Different things are money to different people, and in varying degrees. To some, a time or savings deposit may be a temporary refuge for idle funds, to others it may be a lifelong investment. Something similar may be true with respect to savings bonds. Keynes has suggested that for some purposes up to three months' bills might be considered as money. If we follow the principle underlying this suggestion to its ultimate conclusion — i.e. that anything which satisfies the desire for liquidity partakes to some extent of the character of money — we shall presently find ourselves monetizing the majority of all readily salable assets. Some investors, for instance, hold medium or even long-term bonds in expectation of future purchases of common stocks. Others may hold conservative common stocks in anticipation of a favorable moment for taking a flyer in some rank speculation. There is a wide range of variation in the kind of roof which people like to have over their storm cellars.[3]

Another difficulty is presented by bank excess reserves. Obviously they are not part of the money supply in the hands of the

3. This illustrates the point that liquidity preference is not a one-way affair, creating a demand exclusively for cash and short-term securities and putting pressure upon long-terms, but that it works in both directions, although not with equal strength.

public. They have been at times, however, a very important factor in the securities market, and certainly must be included in any enumeration of the funds held for eventual purchase of capital assets. The expansion which they could produce, moreover, is a multiple of their own amount. Keynes, in the Treatise was dealing with a similar problem when he proposed to include overdraft facilities as part of the money supply. If one wished to pursue the principle to its extreme conclusion, one might have to take account of all of the banks' short-term government securities. The banks could allow these to run off, thereby virtually forcing the Treasury to refinance them through an expansion of Federal Reserve credit. Even the longer-term portfolio of the banks might be regarded as convertible into cash, if one makes the extreme assumption that the monetary authorities would continue to maintain the bond market in the face of such pressure.

There plainly is little profit in pursuing the elusive money concept into these regions. The best that can be said is that certain things are money in every sense and that others are near-money in varying degrees. If one wishes to define money and to include the near-money assets in the definition, he must add in a footnote that the latter are less effective money. If they are excluded, it is necessary to mention that their existence causes the things admitted as money to behave differently — to turn over more rapidly — than they otherwise would. In our Tables I and II, the only kinds of near-money taken account of are time and savings deposits, and bank excess reserves.[4]

The data of Table I indicate a very great increase in the aggregate money supply. They also show that the increase in currency and demand deposits has been more than in proportion to the rise in money work to be done. Money in general, therefore, is less active than it used to be, or, to put it differently, the volume of idle balances has increased.

This, however, as pointed out before, does not mean that all idle balances are subject to liquidity preference in the sense we have in mind. Some hint as to the proportion of liquidity-preference-controlled balances can be obtained by investigating the character of the owners of the money supply. We are fortunate in having at our disposal the surveys of Estimated Liquid Asset

4. From the liquidity preference point of view, these excess reserves are a kind of super-money.

Holdings of Individuals and Businesses, made by the Board of Governors of the Federal Reserve System.[5] Some of the findings of the latest survey are shown, in a regrouped form, in Table II. Once again it is emphasized that the comparison made in that table of the rise in certain types of money with changes in gross national product is purely illustrative and not intended to provide an exact measurement of the increase in idle funds. It should be noted that the comparison is made only for the year 1939, earlier data not being available, and that there was already in existence in that year a considerable volume of idle balances. We shall now consider the various categories in some detail.

Trust Funds and Financial Corporations

Although its holdings are small, this category is of particular interest, because the great bulk of the funds here represented is held specifically as an alternative to security investments. It should be noted that the increase in demand deposits is attributable mainly to financial corporations. The relatively small increase in money holdings of trust funds, and of the category as a whole, is explained in part by the pressure to earn interest to which many investors of this kind are particularly exposed. To some extent it may also reflect a peculiarity of trust arrangements which tends to create a taboo against idle funds. It seems clear that the cash holdings of trust funds and financial corporations will not affect the economy very profoundly, no matter what use is made of them.

Personal Holdings

The increase in total cash, as well as in what might be considered idle funds, has been very considerable in this group. Much of it, however, represents currency, the increase in which is a phenomenon sui generis, hardly connected with investment transactions. Much of the money held in this group, moreover, is plainly earmarked for purchase of consumer goods and dwellings. Of the rest, insofar as it is not burning holes in people's pockets, a good part probably is held in a kind of investment limbo, rather than in preference to some specific alternative.

Nevertheless, this group contains numerous large and small investors whose cash balances in the aggregate must be substantial.

5. Federal Reserve Bulletin, February, 1946, pp. 122–123.

Many of them can afford to remain liquid for long periods; and many of them, not being professional investors, may not be interested in the small returns available from short-term securities. If the liquidity preference of this group should change, quite considerable sums might come into the market.

Non-Financial Corporations and Unincorporated Businesses

Increases in this group, too, have been tremendous. The estimate of unincorporated business holdings is rather uncertain, as the Federal Reserve Board points out; but since the investment problems of corporate and unincorporated business probably are fairly similar, the two groups have been thrown together in Table II.

A large part of the business funds not needed for current transactions is earmarked, of course, for tax payments, replacements, and immediate capital expenditures. This is the counterpart of the funds which individuals hold to catch up on consumption. Only insofar as businesses are deliberately holding back their expansion programs, pending conditions which would promise larger rates of return (through lower equipment costs, for instance) are any of these funds affected by liquidity preference. A large slice of the increase in cash probably serves no other purpose than to meet management's desire for liquidity — a desire not unreasonable after the frightening experience of the last depression and intensified by the natural wish to get away from dependence on the capital market and on banks. It is likely that this trend, which has already decimated commercial bank loans and may eventually do the same to corporate bonds, will absorb or bind a substantial part of business' new liquid assets. These balances, therefore, must be regarded as pertaining chiefly to the precautionary motive.[6]

Important security investments by non-financial corporations and unincorporated business are, on the whole, not to be expected, even though large amounts of government securities were purchased during the war. At most we may see a tendency toward corporate concentration through mutual stock purchases as a result of present liquidity, which would not necessarily reduce corporate liquidity in the aggregate. On the whole, therefore, the proportion of the idle balances in this group affected by liquidity preference

6. Cf. Friedrich A. Lutz, Corporate Cash Balances, 1914–43, National Bureau of Economic Research, New York, 1945, Chap. 5.

does not seem to be very great.[7] Nevertheless, in view of the large volume of these funds in the aggregate, even a small proportion may have sizable effects.

Commercial Banks

Although commercial banks at present have only modest excess reserves, by the standards of the last ten years, it is worthwhile to cast a brief glance at their liquidity preference problem. All through the 30's, as excess reserves were piling up, banks in general went slow on their purchases of government securities, for reasons which in good part seemed to denote liquidity preference. To some extent, it is true, the holding of excess reserves may have been motivated by such factors as an increase in the proportion of large deposits, in foreign-owned funds, and in government deposits, all regarded as calling for greater liquidity. At the same time, however, contemporary literature makes it clear that the prevailing level of interest rates was regarded as exceptionally low, and that this tended to restrain banks from going more heavily into longer maturities. The fear of a drop in the bond market was intensified by the expectation that the commercial loan business would revive and that the need for funds would force the banks to sell securities at a loss, instead of being able to carry them to maturity.[8]

These anticipations have proved unfounded, and the banks have become somewhat bolder in reaching out for longer maturities. Even today, however, they continue to be far from assured regarding the stability of the rate structure. In addition, they are concerned about possible regional shifts in deposits and other transi-

7. Avram Kisselgoff has found a notable degree of correlation between corporate cash balances not needed for transactions and the rate of interest. It seems likely, however, that this relationship is attributable more predominantly to the operation of a common cause than to a causal nexus between the two variables. Cf. Avram Kisselgoff, "Liquidity Preference of Large Manufacturing Corporations (1921–1939)," Econometrica, October, 1945, pp. 334–344.

8. It has often been said that in their investment policy the banks were "speculating" on a drop in bond market. Quite generally, the processes connected with liquidity preference have been described as "speculation." This, I feel, is doing a disservice to the doctrine of liquidity preference. The doctrine is, in many respects, a very realistic one. It is unrealistic, however, and not conducive to finding a wider acceptance for the doctrine, to classify as "speculation" the activities of institutions whose valor must, by necessity, always be 99 per cent discretion.

tional disturbances, which might force them to sell securities at a loss. This, together with restrictions upon the eligibility of longer-term government securities for bank purchase, continues to limit bank operations in such instruments.

The banks are in an extremely strategic position. If their fears concerning the rate structure or deposit shifts should be removed, their demand for the longer maturities might be greatly intensified. They might finance this by letting their shorter maturities run off, which might force an expansion of Federal Reserve credit.

Despite their key position between the short- and the long-term market, however, the action of the banks is likely to be less critical than that of other major investor groups. The banks can be controlled more easily than other groups through changes in Federal Reserve credit; they are already accustomed to being barred from purchase of certain issues, a practice which might perhaps be extended; and they are remarkably sensitive to anything calculated to increase their liquidity preference. While many difficult problems of technique are involved in controlling the effect of bank purchases upon the security markets, these problems do not bear upon the basic issue of monetary stability in the way non-bank investment operations do.

Market Behavior

A word needs to be said regarding the typical modus operandi of the investors discussed above. Among traders in securities one frequently hears remarks like the following: "If I were fully in cash, I would not want to buy anything now. But, being heavily invested, I think I'll hold on to what I have." This attitude, strictly speaking, is irrational, since it implies that of two alternatives — to hold cash or to hold securities — each is preferable to the other. The cost of buying or selling is generally too small to be of importance. Hence in most cases an attitude of this kind, which at times seems common to most investors, can be explained only on the assumption that the uncertainty of judgment is so great that the investor prefers to be guided by his natural inertia and for that reason tends to maintain whatever position he has.[9]

9. Some investors would probably explain their behavior by saying that in one case they are taking a short-term viewpoint, while in the other they are looking farther ahead. In other words, they would not buy because they expect prices to fall in the near future, but alternatively they would not sell because

For the determination of liquidity preference schedules, this inertia is of considerable importance. Strict interpretation of the concept of a schedule would imply that the investor, after selling at a certain price in a rising market, would buy back at the same price on the way down. In practice, however, his inertia would probably cause him to maintain whatever position he has longer than indicated by the schedule. In other words, the curves traced out by the actual sales and purchases which an investor with an invariant liquidity preference would be carrying out in a rising and falling market would not be identical.[1] I think it would be an error to say that his liquidity preference had changed when that happens. What we have to face is an area of indeterminacy even with a given state of liquidity preference.[2]

To this indeterminacy of the schedule must be added the instability resulting from the elasticity of investors' expectations, i.e. the change in their expectations of future prices associated with changes in market prices.[3] Another factor which beclouds the precision of the liquidity preference schedule is that the decision to hold cash frequently is the residual result of a series of positive

they expect them to rise in the long run. But this merely means to shift the irrationality, or uncertainty of judgment, to a different field, that of choosing between a short- and long-term viewpoint. A different situation exists, of course, in cases where the decision of selling or holding is governed by capital gains tax considerations.

1. The concept of a double schedule used by Mrs. Robinson for the supply curve of an industry could be applied to this situation. One liquidity preference schedule could be drawn to indicate the selling levels for each investor, the other his buying levels. The buying schedules would be above the selling schedules, i.e. they would be associated with higher interest rates and lower prices. The actual conduct of the average investor, however, is perhaps more accurately portrayed by an area of indeterminary than by two rigid schedules. Cf. Joan Robinson, "What is Perfect Competition," this JOURNAL, November, 1934, pp. 109–110.

2. An investor who is attempting to profit from market fluctuations will not repurchase in any case at the price at which he has sold. If he operates with a notion of "normal" prices in mind, he will be inclined to sell when prices are above normal, and to buy when they are below. This, I think, had best be interpreted as a shift in liquidity preference.

3. It can never be asserted with certainty, of course, that the reason for a change in an investor's price expectations is the current price move rather than the news or developments which caused that price move. Many investors probably would be reluctant to admit that they were motivated predominantly in this fashion. However, in the case of traders who are interested primarily in whether the market looks strong or weak, the importance of this motive seems obvious. For many investors, too, the difficulty of interpreting the news is so great that they are apt to be guided by the market's verdict on it.

decisions to purchase or sell assets. In the investor's thought processes, the emphasis is often on his desire to hold or not to hold certain assets, rather than upon the resultant movement in his cash balance. The term "liquidity preference" does not reflect this state of mind quite as well as it should. Something like "investment resistance" would come closer to it. When, from the general notion that investors sometimes would rather not hold risk assets, we pass to the construction of a schedule, relating the residual of their decisions in terms of cash to interest rates and prices, we are putting a heavy burden upon this residual.

This comment reflects adversely, not upon the logical basis of the doctrine, but upon any attempt to implement it statistically for purposes of interest-rate determination. Any other interest rate theory — such as the loanable funds theory — has to deal with the same difficulties; they merely appear in a different form. For the purpose to which the liquidity preference doctrine is put in this essay — to see how firmly idle balances are anchored in the hands of their holders — the difficulty of constructing anything like a precise schedule is not a significant obstacle.

IV. Conclusion — The Future of Idle Balances

We now come to the final part of the discussion: what is going to happen to the idle balances investigated in the preceding section? What course of action do they suggest for monetary policy and for debt management?

As a very broad kind of guess, based in part on Table II, we may perhaps venture to say that the balances influenced primarily by liquidity preference at present aggregate at least 15 billion, more likely 25, perhaps even more. If their holders should prove unwilling to hold these balances indefinitely, the funds will go into the securities and real estate markets, into physical investment, and may conceivably even spill over into consumption. They will then force an expansion of output or an increase in prices, or both, until output and prices have reached such levels that all previously idle funds are incorporated in transactions balances. On the other hand, if liquidity preference should be sufficiently strong to make people hold on to their idle balances, we may expect these funds to remain where they are. They will then have only mild and indirect effects upon the economy.

The view here offered is that liquidity preference will tend to

bind these balances fairly effectively, although perhaps not without some further fireworks in the securities market. This, I think, will be the combined result of two sets of factors.

The first of these is the familiar effect of falling interest rates and rising asset prices upon the demand for idle balances. At present levels of interest rates and prices, this demand probably is already considerable, and it is likely to rise if these market trends continue. This may be regarded as a movement along a given liquidity preference schedule. The second effect to be taken into account is a displacement which almost certainly has taken place in the schedule itself during the war years, producing an increase in the demand for idle balances at every level of interest rates and prices, owing to the increase in assets in the hands of investors. To this relationship between the volume of assets and the demand for idle funds we shall return shortly; but first a few remarks regarding the movement along a given schedule are in order.

An important question is how far a bull market in securities and other assets tends of itself to change people's expectations and hence their liquidity preference. To some extent this is almost certain to happen, since an elasticity of expectations of zero is not to be supposed. However, unless we should once more fall prey to a "New Era" psychology, or unless unreasoning fear of extreme inflation should take hold, there is little reason to expect people to lose altogether their notions of normal rates and prices upon which liquidity preference rests. A bull market, particularly if it is a fairly orderly one, such as we have had until now, is likely to change liquidity preference somewhat, but not to eliminate it. Hence one may assume that a continued rise in the market will tend to bind an increasing volume of funds.[4]

Also to be considered is the fact that a stock market and real estate boom may have adverse repercussions upon the stability of the economy in general, because of the ensuing increase in consumption expenditures and increasing ease of financing ventures of

4. This has some bearing upon the question, much discussed during the 20's, whether the stock market "absorbs" capital. It has repeatedly been demonstrated that the actual operations of the market require only a relatively small volume of funds. If we consider the effects of liquidity preference, however, it is evident that a *rising* stock market does absorb a considerable amount of funds by forcing them into idle balances. Cf. J. H. Rogers, "The Effect of Stock Speculation on the New York Money Market," this JOURNAL, May, 1926, pp. 435–462.

dubious merit. The materialization of this danger probably depends upon the extent of the rise and the psychology accompanying it. An orderly market is less likely to produce such phenomena than a runaway one. A continued fall in yields, moreover, will make many investors think twice before consuming any part of their profits.

In short, while we must admit that, as a means of binding idle balance, a rising market may have repercussions which might make the cure worse than the disease, the danger does not seem too great. If liquidity preference remains reasonably strong, the rise should be sufficiently orderly in character and moderate in extent to prevent these repercussions from becoming very important.

It has also been argued that a continued rise in the cost of living will bring about a rise in interest rates, on the ground that equilibrium in the bond market requires the rate to be high enough to compensate, in some measure, for the loss of purchasing power of the principal. On the basis of recent experience, there is very little support for this view, nor does it seem likely to prove any more correct in the future. Bondholders are a hardy lot. They have suffered much more from the past decline in interest rates than they are now likely to suffer from inflation. It is very improbable, on this ground alone, that the present rate of inflation will affect their policies anything but moderately. Insurance companies and banks, in particular, can remain quite unperturbed by inflation, because the purchasing power of their liabilities evaporates at the same rate as that of their assets.

All in all, therefore, we may conclude that the present high price of bonds and equities, and their continued moderate rise, will go some way toward binding a substantial volume of idle funds.

So much for the movement along a given liquidity preference curve. We now come to the presumed shift in this curve and to the reasons why the wartime increase in wealth is likely to have produced such an increase in the demand for idle funds. The liquidity preference function is defined as the demand curve for cash in relation to the interest rate or to the price of assets. It has sometimes been assumed implicitly that this function is independent of the total volume of assets held by investors — for instance when it has been said that the savings resulting from deficit spending should just suffice to buy the securities which the government must issue for the purpose. Actually, since idle funds are held as insur-

ance against a fall in investment values, and to some extent as a means of maintaining portfolio flexibility, their amount must bear some relation to the total assets of investors. Investors ordinarily do not think of holding a certain *amount* of cash, but of holding a certain *proportion* of their assets in that form. When assets increase, an unchanging investment policy calls for a larger amount of cash.

The case resembles that of a Marshallian demand curve for a consumption good, which is drawn on the assumption of a given income and which shifts if that income increases. What remains invariant in this instance is the consumer's indifference map for consumption goods. In the case of the investor, it is his mental state of liquidity preference, or in short, his investment policy, which does not change, while his demand for cash increases with his rising wealth.[5]

This effect is likely to show up less in the cash holdings of professional investors than of others, because the former are more disposed to put idle funds into low-yielding short-term securities. The principle of increasing protection for increasing wealth is, of course, the same in both cases.

During the war, the growth in private wealth (including cash and government securities) has been tremendous. Without making allowance for private capital formation, it must have at least equalled the increase in the national debt. In addition, there has been a great increase in the value of previously existing assets. The value of the stocks listed on the New York Stock Exchange, for instance, has risen from 46.5 billions at the end of 1939 to 73.8 billions at the end of 1945. This also calls for additional cash protection, quite independently of whether the present high price level of security prices and other assets makes investors want to be proportionately more liquid or not.

This view of the matter explains in part, I think, why investors accumulated such large cash balances in the first place, instead of buying more government securities. It further strengthens the belief that, for the time being at least, investors will be willing to hold large balances, instead of turning them into a threat to economic stability.

Taking a somewhat longer view, we must ask ourselves

5. For a related aspect of the same matter, see Clark Warburton "The Volume of Money and the Price Level Between the World Wars," Journal of Political Economy, June, 1945, p. 162.

whether any binding of funds by liquidity preference may not represent only a temporary equilibrium. Prices remain constant because people fear they may fall. Eventually people may change their normal price and normal interest notions, and will proceed to buy, whereupon prices will rise. Then the game may begin again at a higher level, unless, as is not unlikely, it is interrupted by other events.

Counteracting this prospect, there is the probability that people in the meantime may also change their notions about why they want to hold funds idle. Once accustomed to the sense of security provided by an ample bank balance, they may be less eager to employ their resources, even if conditions appear more favorable. We may, in fact, be witnessing an important change in the character of money. After having served predominantly as a means of exchange, it may be in the process of becoming predominantly a store of value. No one can say, of course, whether this will prove to be a permanent feature or not. If it should prove to be so, we may be well on our way, for all riskless assets, toward Keynes' "balm and sweet simplicity of no per cent."

In addition to changes in monetary habits, the state of liquidity preference will be influenced by monetary policy and by the management of the public debt. Liquidity preference can be increased or maintained by leaving the market in a state of uncertainty about future interest rates. The authorities can produce this effect by not committing themselves publicly to a policy of stable low rates, and by conducting their operations in the market in such a form as to keep the market uncertain concerning the firmness of official support. By doing the opposite (many forms of doing it could be envisaged), the authorities could reduce liquidity preference.

On the other hand, the existing state of liquidity preference may itself serve as a guidepost to monetary policy and debt management. The analysis presented in this paper carries with it certain implications for policy. In briefly stating these, it should be clear that they constitute only a small fraction of the many considerations which go into the making of policy. They must in no way be regarded as a sufficient basis for policy recommendations.

In the first place, the analysis has shown grounds for believing that the present volume of idle balances, insofar as these are subject

to liquidity preference, is less of an inflationary threat than might appear at first sight. It follows that monetary and debt policy need not be as concerned over them as is sometimes suggested. Failure to fund the short-term debt, and even its continued expansion, does not seem to carry very grave dangers, when viewed from this angle.

In the second place, however, it would not seem advisable to follow a policy which would have the effect of greatly reducing liquidity preference, because this would loosen the chains which now keep idle balances anchored. It is true, of course, that a policy of keeping the market guessing or "scaring" it once in a while may be a relatively expensive policy. The Treasury could finance itself more cheaply, perhaps, if it removed all motives for liquidity preference, insofar as that is in its power. In that case, however, it would probably be advisable to seek new means of binding idle balances, which would perform the function now performed by liquidity preference.

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THE LOCUS OF UNION CONTROL IN COLLECTIVE BARGAINING[1]

SUMMARY

Problem and plan of the paper, 513. — I. National control of bargaining at the subordinate level: historical, 514; nature of the control, (a) formal constitutional limitations, 515; (b) intervention of the National office, 517. — determining factors of National control: structure of the product market, 520; non-market forces, 523. — Effects of National control, 524. — II. Formulation of demands: importance, 529; the local level, 529; the regional level, 530; the National level, 531. — III. The negotiating personnel and its powers: make-up of the personnel, 532; powers of the negotiators, 537; analytical implications, (1) "soundness" of bargains, 539; (2) other relevant variables, 540; (3) sub-committees, 541. — IV. Cooperative action among unions, 542. — Summary and conclusions, 544.

With the emergence of trade unions as a potent force in the labor market, the economic variables of the market place are no longer the doings (if they ever were) of the mechanical interaction of atomic social units. Instead, we find a body politic — the trade union — determining, in substantial part at least, the economic pattern of the labor market. And once we speak of a body politic, instead of the individual, the mechanical gives way to the biological. With unions in the labor market, therefore, we must explore the relationships of control within each union group, for to a substantial degree the results arrived at in the market depend on these relationships.[2]

The purpose of this paper is the exploration of this locus of union control in the collective bargaining process. An attempt will be made to show how the locus of control over the actual bargaining with employers leaves an appreciable imprint on the resulting labor agreement in each particular case. We shall, accordingly, deal exclusively with control over the collective bargaining around the

1. This is part of a far more comprehensive study of trade-union government and policies conducted under the direction of Prof. W. M. Leiserson. The author is indebted to Professor Leiserson and Mr. Joseph Kovner for many valuable suggestions made in conjunction with this manuscript. The author alone, however, assumes full responsibility for the views expressed.

2. The "customary" classification of the structure of labor markets — competition with no unions, and monopoly with unions — is hardly adequate to explain the multifarious problems that obtain in the market when the union enters the scene.

conference table, and no attention will be given to the locus of control over such "by-products" of collective bargaining as grievances, arbitration, and strikes.

The locus of control will be viewed from four basic points of view: (1) national control of bargaining at the subordinate level; (2) the formulation of union demands to be submitted to the employer; (3) the negotiating personnel and its powers; and (4) coöperative action among unions. Although each of these will be treated separately for purposes of exposition, there are numerous relationships between them in practice.

I. National Control of Bargaining at the Subordinate Level

Currently, national control over collective bargaining at the subordinate (local) level is exercised in many unions. This condition did not always obtain in these unions, however, except in the case of some of the "newly-formed" CIO unions to be discussed below. The intervention of the national or intermediate office[3] has been a development of the historical growth of each union, and has been generated, as we shall see, by structural forces making themselves felt with ever-growing intensity over time.

The Typographical Union is an excellent case in point. Today this union supervises local collective bargaining rather stringently, and the locals have to abide by a large number of so-called national laws in their bargaining with local employers. Yet in 1884 we find that " . . . trade policies were discussed from time to time by the National Union and its conclusions were formulated in 'general laws,' but the rules relating to trade questions were almost without exception phrased as mere recommendations to the local unions. . . ." Similarly, the present pattern of full-time national representatives and organizers was preceded, for a long time, by an ever-changing group of part-time men, who were generally appointed on the basis of political patronage within the union.[4] The experience of the Typographical has been dupli-

3. The term "intermediate office" as used in this paper refers to the political unit of a trade-union which, structurally, lies between the national office and the local. In some unions this office is referred to as the district, in others as the joint local office, etc.

4. Barnett, G. E., The Printers, Publications of the American Economic Association, October, 1909, pp. 31, 329ff.

cated, in varying degrees, in all the other unions that have shown a vigorous growth over time.

Nature of the Control

The control exercised over local collective bargaining takes two principal forms: (1) formal constitutional limitations on the freedom of action of the local, and (2) the intervention or counsel of the national office in the collective bargaining process at the local level. Obviously, these two categories are interrelated in practice, but in this paper they will be treated separately.

The migratory character of the members of certain unions entails particular types of national constitutional limitations. Where the traveling members may undercut standards, it becomes necessary to check such competitive practices by establishing certain minimum standards to which the members must conform. This explains, to a large extent, the existence of very elaborate provisions in the by-laws of the Musicians' Union governing wages and conditions for traveling orchestras and traveling bands.[5] Similarly, the Bill Posters and Billers Alliance regulates the minimum scales for " . . . all classes of work calling for members to *travel* on the road."[6]

The desire of the national membership to prevent competitive cutting between different subordinate units working on products or services flowing to the same market, coupled with the desire for uniformity of wages and conditions at the highest possible level, has induced a number of unions to provide adequate checks against the freedom of any local to depart from the specified norm. These checks take a variety of forms. Thus, the constitution of the Bookbinders provides:

> The wage scales established by local unions shall not be less than the minimum wage scale established for the district. (Section 70.)

And the constitution of the Lathers specifies:

> . . . it is the duty of all locals to cooperate to establish uniform wages, hours and conditions in their state, and that the highest prevailing scales and shortest hours in the state shall be the wages and working hours for all the locals in their respective states. (1939 ed., Section 102.)

5. By-laws, 1942, Sections XIII and XIV.
6. My italics.

Further illustrations of the same general policy are found in the constitutional limitations of the Paper Makers,[7] United Shoe Workers,[8] Retail and Wholesale Employes (CIO),[9] Coopers,[1] Paving Cutters,[2] the various printing trades unions,[3] Brewery Workers,[4] Office and Professional Workers,[5] Newspaper Guild,[6] United Automobile Workers (CIO).[7]

One should also note the provision in the constitutions of fifty-two unions providing for the submission of a local contract to the national office for approval, either before presentation to the

7. "... the Executive Board shall endeavor to have all agreements expire at the same time, thereby securing more uniform agreements." (General laws, 1943, Article 1, Section 5.)

8. "The General Executive Board shall draft a standard form of agreement which, when completed, shall be submitted to the membership for adoption by referendum vote. When such standard agreement shall have been adopted by the membership, no other form of agreement may be entered into by a District, Joint Council, or Local Union." (Constitution, 1944, Article 14, Section 1).

9. "Collective bargaining on behalf of any membership shall be guided by the collective bargaining program and policy of the previous convention." (Constitution, 1939, Article 14, Section 1)

1. "... under no circumstances shall the General Executive Board approve of a contract that calls for a lower scale of wages or poorer working conditions than are received by other local or locals in that vicinity." (Constitution, 1941, Section 89.)

2. "It shall be the duty of the Board of Directors to correspond with each other for the purpose of keeping scales as uniform as possible. Especially so in cases where blocks from different districts are flowing to a consumers' market." (Constitution, 1940, Section 10.)

3. In addition to the Bookbinders, this includes the Typographical, the Pressmen, the Stereotypers, the Photo-Engravers, and the Lithographers. Each of these unions provides numerous restrictions on the freedom of action of its locals in bargaining over wages, hours and conditions.

4. "During contract negotiations no local union shall have the right to report back to the proprietors, until every local union reports first to the Joint Local Executive Board and the Joint Local Executive Board decides." (Constitution, 1942, Section 31.)

5. "Any agreement covering employees of firms with offices in more than one city must be submitted to the President for approval before signing, but the President may also require the submission of agreements for approval, if he considers such agreements likely to affect the standards of office and professional employees in other cities." (Constitution, 1940, Article 11, Section 2.)

6. "Collective bargaining on behalf of any membership group shall be guided by the Collective Bargaining Program of the Convention." (Constitution, 1943, Article 18, Section 1a.)

7. The constitution provides for the establishment of intra-corporation councils, competitive shop departments, and national and regional wage-hour conferences — all for the purpose of equalizing wage and condition standards. See Constitution, 1944, Articles 20–23.

employers and/or after completion of negotiations. The rationale of this procedure is expressed very clearly in the constitution of the Coopers Union in the following words:

All contracts or agreements put before the Executive Board for approval must be thoroughly compared and the wages and the conditions made as nearly as equal as possible. (Constitution, 1941, Section 33.)

The influence of the national office in bargaining at the subordinate levels makes itself felt in other ways as well. One of these is related to the existence of research and statistical departments at the national headquarters of a considerable number of unions. The locals call upon the research office for statistical help in negotiations, requesting such information as comparative wage data, cost of living figures, and productivity schedules.[8] In this way the national office influences bargaining at the local level in a substantial fashion, for the success of the local's case often depends on the effectiveness of the research office in furnishing the necessary data.[9] In several cases known to the writer, the failure of the local to obtain certain concessions from the employer resulted from the fact that the national research office did not furnish all the information asked for by the subordinate union body.

Most national unions maintain full-time international representatives, one of whose functions is to help and counsel local unions in their dealings with employers.[1] The significant point in this rôle of the representatives is that, in most instances, the

8. Cf. "Research Work of Trade-Unions," Monthly Labor Review, Vol. 56 (1943).

9. Thus, the Monthly Labor Review reports: ". . . the statistical department of the teamsters' union has participated actively in several important local or regional cases involving milk drivers in New York City and Chicago, and over-the-road motor truck drivers covered in a midwest regional union agreement. In the latter case, the president of the International stated that the splendid showing of the statistical department was largely responsible for a favorable arbitration award which resulted in a wage increase aggregating approximately $21,000,000 a year for the 60,000 members covered by the terms of the contract." (Vol. 56, 1943, p. 300.)

1. In this context, the following provision contained in the constitution of the Printing Pressmen is most revealing: "When subordinate unions, through the efforts of an International representative receive an increase in compensation, they shall be required to pay to the International Union five per cent of the increase received in wages on each member, for a period of six months. The provisions of this section shall apply to towns and cities where an International representative is requested or is sent by the International Union." (Constitution, 1940, Article 12, Section 7.)

help is requested by the locals on their own initiative.[2] The local rank and file feels that the national man is a better bargainer than the local officer, that he is better informed, and that he commands the respect of the employer to a greater degree. There is also the fact that the local leaders will often be reluctant to attempt convincing the rank and file of the desirability of a certain policy, since in many instances advocacy of the policy on the part of the local leaders might cost them their positions. Under such circumstances, the national representative can be used very effectively by the local officers as a "save-face" medium.

The subordinate units are thus willing to concede a certain portion of their autonomy to the national representative because of structural necessities. The important point to note is that the intervention of the national office in these instances is not imposed upon the locals from above, but arises from the spontaneous desire of the locals — a desire generated by the conviction that the intervention of the national office will help improve the economic position of the rank and file. This point is illustrated very strikingly by one of the resolutions proposed by a number of locals at the 1931 convention of the International Typographical Union, which provided that when an international representative is called in he should " . . . remain until such time as agreement or disagreement has been reached."[3] This resolution was defeated only after President Howard pointed out the administrative impracticability of such a policy.

It should not be inferred from the preceding paragraphs that the national officers or representatives *never* step into the local collective bargaining scene on their own volition. Such action occurs when the national officers believe that the actions of the local in question are likely to affect the welfare of other units of the organization, so that the actions of the local must be carefully guided. But intervention of this type is a delicate affair, for there is always the danger that the local may rebel against too stringent control on the part of the national office. In the light of this, it is not surprising to find that the by-laws of the Paper Makers specify that " . . . the International Union shall not have power, through

2. The reference here is to representatives (or officers) of the union of which the local is a part. But it should be noted that, in the case of some CIO unions, the officers of the CIO itself (e.g., Phil Murray) are sometimes called in to help in the negotiations.

3. Convention Proceedings, 1931, p. 37.

any of its officers or representatives, to sign with any employer, any agreement or labor contract relative to changing hours of labor, wages or conditions, or to renew existing contracts, without the consent of the subordinate Union affected. . . ."[4] Similarly, one of the international representatives of the Typographical Union reports as follows: " . . . The newspaper publishers (of Dayton, Ohio, in 1923) desired a private conference with the representative, but were told that the most interested parties to a scale agreement were those who had to work under it and that any conference with a representative of the International Typographical Union must be in conjunction with the accredited local officers."[5]

The danger of local reaction against too great a degree of intervention on the part of the national office became a reality in the early years of the United Automobile Workers. At the 1939 convention of this organization, the following comment by one of the delegates was quite "typical" of the attitude of the local rank and file: "I have just gone through a period of six months where International Representatives came down and ran the (Wage and Hour) Council with an iron hand. . . . "[6] And the attitude of the rank and file toward stringent national control was responsible for the passage of the following law at the same convention: "When a grievance exists between a Local Union and management and negotiations are in progress, and an International Union officer or representative is participating by request of the local union involved, a committee selected by the Local Union shall participate in all conferences and negotiations."

The same reaction against strong national control was evident in the Steel Workers also, as far back as 1940. Comments by various delegates to the convention of that year reflected the attitudes of the rank and file. "Our past experience was that the local officers signed a contract, but it was left exclusively in the hands of the International Officers, which was perfectly all right as long as it worked out. But after we had our contract it did not work out, because the rank and file seemed to disapprove of everything that was signed under it." "Recently there were two or three additions made to the present agreement we have been able to make between

4. By-laws, 1943, Article 1, Section 3.
5. Officers' reports, 1923, p. 132.
6. Convention Proceedings, 1939, p. 457.

the United States Steel Corporation and its subsidiaries. I want to ask the International officers why the rank and file were not notified of those present amendments."[7]

In the controversy over the manning of presses in the New York commercial printing plants in the early part of this century between the New York locals of the Printing Pressmen and the employers, George Berry (the international president) adopted a somewhat passive attitude toward the whole matter,[8] realizing that a more active intervention on his part might result in serious internal union strife.[9]

In 1945 a Texas and Pacific local of the Trainmen repudiated the action of the national office of the Trainmen concerning the allocation of work between the local in question and another one on the Missouri Pacific railroad. This allocation schedule related to consolidated terminal facilities of the two roads.[1]

Finally, mention should be made of the fact that sometimes the employers themselves have been responsible for allotting too much control to the national office. Under such circumstances, the reaction of the local units has been exactly what might have been expected.[2]

Some Determining Factors of National Control

Two basic groups of factors leading to national control of collective bargaining at the local level must be distinguished: (1) those stemming from the structure of the product (or service) market of the industry where the union members work, and (2) those resulting from non-market forces.

Where different local units of the same national union are connected with plants whose products compete in the same buyers' market, there is always the danger that the reduction in scale and condition standards in one local may entail similar reductions in the other locals. Such reduction may result from pressure brought to bear on the locals by employers who are themselves subject to the competitive pressure of the market-place. There is also the

7. Proceedings, 1940, pp. 215, 218.

8. Cf. Baker, E. F., Displacement of Men by Machines, New York, 1933, pp. 123ff.

9. From the writer's field notes.

1. 16 LRR 305.

2. Cf. Selekman, B. M., "Living With Collective Bargaining," Harvard Business Review, Autumn, 1941, pp. 25–26.

danger that some locals, in order to get work at the expense of competing locals, may voluntarily reduce their standards. Although instances of the latter case are not frequent, they can be found.[3] In both cases a check to prevent such practices is needed, and this explains why constitutional limitations setting up certain minimum standards to be observed have been elaborated by the national bodies of many labor organizations.

In attempts to set minimum standards in any given union, the locals with the highest scales have usually led the fight for the establishment of such standards. The reasons for this conflict between "high-wage" and "low-wage" centers are relatively simple. The case of the International Typographical Union illustrates this conflict very vividly. For some time prior to the outbreak of the war, the New York City commercial printing plants had been losing business to the smaller centers.[4] One of the reasons given for this loss was the relatively higher union scales prevailing in New York in comparison with the scales obtaining in competitive centers. It is therefore not surprising to find the New York City delegates to the union conventions clamoring for the establishment of constitutional limitations which would protect the employment opportunities of the New York members against the encroachment of locals where wage scales are lower. Thus, at the 1936 convention, they presented the following resolution to be incorporated in the general laws of the union:

> Upon complaint of a subordinate union the Executive Council shall prohibit members of any sister union of the International Typographical Union from performing or handling any work for employers or publishers who move their plants or send their work from one jurisdiction to another, unless such employers or publishers pay not less than the prevailing rate of wages in force in the jurisdiction from which such work emanated.

This was defeated on the floor largely because of the opposition of both the smaller locals and the national leaders.[5]

The Chicago local of the Typographical, where scales are also high, has frequently complained that the low scales of competing locals engaged in commercial printing have led to a loss of employment opportunities in the Chicago area. And so the Chicago

3. Cf. Slichter, S. H., Union Policies and Industrial Management, Washington, 1941, pp. 529–530.

4. See Drake, Trends in the New York Printing Industry, New York, 1941.

5. Convention Proceedings, 1936, p. 62.

delegates at the 1932 convention of the union proposed the following resolution:

Charters shall not be granted to newly organized local unions where scale does not conform to the highest prevailing wage rate within a radius of seventy-five

Similarly, at the 1937 convention of the Typographical, the Chicago delegation presented the following resolution:

Wage agreements between subordinate unions and employers shall not be less than 90 per cent of the highest wage scale of any other subordinate union within a radius of 100 miles.

At each convention the proposals in question were defeated, thus showing very clearly the conflict between "low-wage" and "high-wage" locals. The significant point of these illustrations is the fact that, in regard to collective bargaining policy, a union is far from a homogeneous unit. Where the interests of the various component units of an organized labor group are not identical, each unit thinks first and foremost of its own particular welfare.

In the preceding paragraphs we dealt with deflationary wage practices resulting from competitive pressure being brought to bear on the employers in question. Deflationary tactics of employers may also be effective in different localities where a policy of so-called "wage leadership" is practiced. In some industries the scale settlement in one important center is usually (although not always) followed by a similar settlement in the other centers.[7] In the ladies' garment industry, for example, the New York City settlement generally sets the pattern for the rest of the country. Under such circumstances, the negotiations occurring at the "lead center" are of great concern to all the other centers as well. It is not surprising, therefore, that in these instances the national officers sit in on and guide negotiations at the lead center.

As regards wage leadership in conjunction with national control of local collective bargaining, two points should be mentioned. First, the lead center sets the pattern in both deflationary and inflationary directions. Second, the lead center is not always in competition with the other centers that follow its policy. In the printing trades, for example, the scale decided upon in New York City frequently acts as the determinant of the scale settlement in

6. Convention Proceedings, 1932, p. 44.

7. There are various types of wage leadership, but an analysis of these variations lies beyond the scope of this paper.

Cincinnati, but, by and large, New York and Cincinnati produce commercial printing for entirely different markets. Why a non-competitive center should set the pattern is a very important question, but lies beyond the scope of this paper.

In addition to market elements, there are non-market elements which account for some facets of national union control of collective bargaining at the local level. The first of these has been the growing importance of the rôle of the government in the conduct of collective bargaining. Where official government agencies enter the scene in collective bargaining, threats and counter-threats in the negotiating process usually give way to facts and figures. Thus, for example, the case for any union before the National War Labor Board was presented in the light of the available data, not on the basis of "who could shout the loudest."[8] Similarly, the fact-finding boards appointed by President Truman after V-J day contributed to the same result. Under these circumstances, few locals have either the financial resources or the skilled manpower to present their cases adequately before a government agency, and must therefore turn to the national office for help. In this context it is interesting to note that the development of research offices at the national headquarters of many unions during the first World War was prompted, to a large extent, by "the existence of numerous government agencies and boards, such as the United States Railroad Administration and the National War Labor Board, who based their decisions about wage increases and working conditions largely upon a thorough analysis of pertinent economic and statistical data."[9] The same condition obtained during World War II.

The nature of the genesis of some unions in this country has been responsible for the substantial national control characteristic of their structure. In the case of the older AF of L organizations, each national union arose out of a gradual process of federation and consolidation of numerous local units throughout the country. As a result, it was only gradually, after consolidation, that the local units conceded control over certain aspects of collective bargaining to the national office. But in the case of many "newly-formed" CIO unions — the Steel Workers are a case in point — the de-

8. Obviously, facts and figures do not preclude the subtle broadsides of a strong pressure group.

9. Monthly Labor Review, Vol. 56 (1943), p. 297.

velopment occurred in a diametrically opposite fashion. They were formed from "the top down." A national organizing committee, sponsored by the CIO, set out to establish local units throughout the country. Here, by the very nature of the process by which they came into being, the national office is bound to have "substantial" control over collective bargaining. In fact, as was pointed out above,[1] this control was at one time so strong in these CIO unions that the locals reacted against it.

It is true, of course, that in the case of the Steel Workers, and other CIO unions, the market factor also enters into play. The fact remains, nevertheless, that the control by the national, at its inception, stemmed from the nature of the formation of the union rather than from the compelling forces of the product market structure.

A final non-market factor determining national control relates to the structural make-up of some unions. Where the national union is made up of different departments, each with some substantial degree of autonomy, the national officers connected with the department will leave an imprint on the collective bargaining negotiations pertaining to the department in question. The United Automobile Workers (CIO), for example, have a General Motors Department, which was formerly under the direction of Walter Reuther, now president of the union. It is not surprising, therefore, that in the company-wide negotiations with General Motors, Reuther played an important rôle in guiding and counseling the various GM locals.

Some Effects of National Control

The intervention of national officers or representatives in bargaining at the local level has exerted both an educative and a strategic influence on the bargaining process. In the former context they have guided local unions in negotiations with employers, quite frequently toning down the exaggerated demands of the workers by appropriate persuasive measures. In the strategic function, the officers and representatives have led the local committees in actural negotiations with the employers; in these instances, the superior bargaining ability of the national officers or representatives has frequently led to an agreement, where the local

1. See p. 519, above.

committee by itself had been unable to consummate a bargain.[2] This superior ability of the national officer or representative is the result of factors which have been treated elsewhere.[3]

Thus the intervention of the national office in the local bargaining process has a decidedly beneficial effect on the terms of the bargain concluded. Since the national officers and representatives understand the problems of the industry in question better than the local men, thanks to longer and more intimate contact with the management group, it follows that the bargain concluded with the aid of the national office is bound to have less detrimental effects on costs and, therefore, on employment opportunities.[4] This becomes particularly evident when one realizes that the national men, not being personally embroiled in the local situation, are likely to view it far more objectively than the local members or even the local leaders. It should also be noted that the national representatives are often able to obtain greater concessions for the local than the latter could by itself. Where this obtains, it may well eliminate the "wage exploitation"[5] that might have existed, had the local bargained by itself.

One of the great drawbacks in the national control of local bargaining is the fact that, in most unions, the number of national representatives is too small for the amount of work to be done. The inadequacy of funds precludes a more extensive staff.[6] This is one instance where the "social virtue" of low union dues is questionable.

The above paragraphs seem to imply that national leadership can invariably convince the rank and file of necessary changes in collective bargaining policy. This is not so. Instances abound where the rank and file continued to steer a course against which they were warned by their leaders.[7] But there are also cases where

2. For illustrations of the effectiveness of both functions, see the Officers' Reports of the Typographical Union for 1923 (p. 132), 1922 (p. 142), 1927 (p. 135), 1924 (pp. 132, 143), 1925 (p. 196), 1926 (p. 208).

3. See Slichter, S. H., op. cit., pp. 374ff.

4. It is assumed here that each bargaining unit considers the rest of the economy as a datum — a very realistic assumption. Where this assumption is changed, the entire analysis has to be altered.

5. For the meaning of this term as used here, see Bloom, G. F., "A Reconsideration of the Theory of Exploitation," this JOURNAL, May, 1941.

6. Cf. Convention Proceedings 1931, Typographical Union, p. 37.

7. See Slichter, op. cit., pp. 205–207, 221–222, 244; Brown, E. C., Book and Job Printing in Chicago, Chicago, 1931, pp. 159–160; Wolf, R. B., "Trade-Union Agreements," in Channels of Dealing with Workers, American Manage-

astute union leadership succeeded in convincing the membership of policies which, at first blush, were firmly opposed by the rank and file.[8]

The intervention of the national office in local collective bargaining has, therefore, some highly desirable economic effects; but since a union is a body politic, the question arises: how does this intervention affect the union governmental hierarchy? For one thing, the intervention of the national officer or representative in local collective bargaining gives him an opportunity to consolidate his position with the membership, if he is successful. This makes for perpetuation of office tenure and greater centralization. Further, where the union, conceived as a national group, is split into factions or parties, there is the danger that the collective bargaining function may be used for political purposes. Reuther's strong stand in the recent controversy with General Motors, for example, has been interpreted by some observers as a "play" on his part for the national presidency by capturing some of the following of his rivals.[9] Similarly, the party system in the International Typographical Union[1] has sometimes come into conflict with the purely economic aspects of the negotiating process.[2] In such instances, the economics of the collective bargain is often "unsound."

Where the collective bargain is distorted because of the existence of a party or faction structure within the union, the interrelationship between the politics and economics of the collective bargaining process is pointed up very vividly. Furthermore, such a relationship illustrates the fundamental difficulty of integrating "democratic unionism" with "sound" collective bargaining. It is here submitted that "effective democracy" can be maintained in any union, or in any body politic for that matter, only so long as there exists a sufficiently strong and well-organized group which scrutinizes the policies of the group in office. This follows from the

ment Association, Personnel Series, No. 27, 1937, pp. 13ff; Palmer, G., Union Tactics and Economic Change, Philadelphia, 1932, pp. 70ff.

8. See Palmer, G., Union Tactics and Economic Change, Philadelphia, 1932, pp. 125ff.; Green, C. H., The Headwear Workers, New York, 1945, p. 123.

9. Since the original draft of this paper was written, Reuther has been elected president of the union.

1. For a description of the nature and origin of this party system, see Taft, "Opposition to Union Officers in Elections," this JOURNAL, February, 1944.

2. Cf. Brown, op. cit., pp. 273–281; Typographical Journal, Vol. 64 (May, 1924), p. 628; Loft, J., The Printing Trades, New York, 1944, p. 231.

fact that most union members display a basic lethargy toward union affairs. Now, this means that only in those unions where organized parties or factions of (relatively) equal strength can prevail, is there any hope for the maintenance of effective democratic control. But, as was shown above, a party or faction structure often (although not always) leads to "unsound" collective bargaining.

One of the most important effects of national constitutional limitations on the freedom of action of locals in collective bargaining is the impact on geographical wage (and conditions) uniformity. As was shown above, one of the main purposes of these limitations is to bring the scales (and conditions) of competing locals in closer relationship to each other. And, in many instances, this objective has been attained. Greater wage uniformity in competitive areas has significant economic implications.

Wage uniformity helps eliminate a good deal of dissension amongst members which now exists because of differential wage rate structures. In this context, the following union pronouncement is typical: "In the case of wage uniformity members are not carrying around a grouch because other members of the same organization working on another railroad got more than they did. . . . The varying wage scales of our classes of employes working for carriers in the same territory has been one of the most vexatious problems this Brotherhood has had to contend with."[3] Such dissension leaves an undesirable impact on morale and, therefore, on productivity.

It has recently been shown that substantial wage differentials between different localities frequently lead to a maldistribution of human resources by creating so-called "wage distortion unemployment."[4] To the extent that centralized control of collective bargaining can eliminate such wage differentials, by establishing wage uniformity in the competitive area, it can lead to a more economical distribution of resources.

Centralized control of local bargaining, by aiming at the establishment and maintenance of wage (and conditions) uniformity between competing locals, influences the local's estimation of

3. Railway Clerk, Vol. 26 (March, 1927), p. 84; also cf. Convention Proceedings of United Steel Workers, 1942, p. 294; Convention Proceedings, SWOC, 1937, pp. 145–146; Convention Proceedings SWOC, 1940, p. 229.

4. Slichter, S. H., "The Responsibility of Organized Labor for Employment," American Economic Review. Supplement, May, 1945, pp. 193ff.

the elasticity of demand for the labor of its members and, therefore, the estimation of its bargaining power.[5] Assume no centralized control of local collective bargaining: within this framework, an increase in the wage rate by a given local unit may or may not be followed by similar increases on the part of the other locals in the competitive area. If the increase is followed, then the demand for the labor of the unit in question is viewed as inelastic in an upward direction; if it is not followed, then the demand will be viewed as elastic in an upward direction. Now, even without centralized control, it is true that, in some cases, an increase on the part of one local unit in the competitive area may set some sort of a "leadership policy" for the other locals, but there is no assurance that the increase *will* be followed. Under such circumstances, and assuming that the local takes cognizance of the structure of the demand for the labor services of its members,[6] a given local operating within a competitive area not subject to centralized control will view the demand for its labor as elastic in an upward direction. Under centralized control, on the other hand, where all the competing units are affected (more or less) simultaneously by a wage change, the demand for the labor services of the unit in question is viewed as far less elastic in an upward direction. (The case of possible wage rate decreases can be worked out very easily by the reader on the basis of the above analysis.)

There are obviously many more effects (some highly "uneconomical") which flow from the tendency toward wage (and conditions) uniformity resulting from centralized control of local collective bargaining.[7] The important point to note at this juncture, however, is the existence of a close relationship between the economic variables of the market place and the locus of control over collective bargaining within the union.

5. Cf. Shister, J., "The Theory of Union Bargaining Power," Southern Economic Journal, Vol. 10 (October, 1943), passim.

6. Some unions do, and some do not, take cognizance of this structure. Cf. Shister, J., "The Theory of Union Wage Rigidity," this Journal, August, 1943, pp. 530ff.

7. Cf. Slichter, S. H., in Trends in Collective Bargaining, Twentieth Century Fund, 1945, pp. 232–233, note 6; and by the same author, "Wage-Price Policy and Employment," American Economic Review, Supplement, May, 1946, pp. 315ff.

II. The Formulation of Demands

The original demands submitted by a union to employers in the collective bargaining process leave a significant impact on the agreement finally consummated. Furthermore, the reaction of the rank and file to the final agreement is conditioned, to a substantial degree, by the original demands formulated. It becomes important, therefore, to examine the locus of control over the formulation of demands.

This question is important on still another score. The now classical Hawthorne studies showed, among other things, the vital need on the part of the worker for self-expression in regard to his job problems.[8] This has been interpreted in some quarters[9] as the strongest case available for the need of trade unions. Such an interpretation may or may not follow; but if it does follow, the question arises: can the members of a union express their views about their work through the medium of the union system? The answer to this question involves many facets of internal union government, among which must certainly be counted the *opportunity* of the individual union member to have a say in the formulation of the demands to be submitted to the employer at the beginning of negotiations. The extent to which members avail themselves of this opportunity is obviously another matter. In this respect, most union members are no different from members of other bodies politic: they display the same basic indifference to the internal affairs of their organizations. And this indifference is reflected in the (relatively) small attendance at local union meetings. It should be noted, however, that the meetings where wage contracts are discussed usually attract a higher attendance than others.

In bargaining at the local level the union member is generally able to make his views felt. In fact, some (national) union constitutions even make special provisions for such expression at the local level. Thus, the constitution of the Cement, Lime and Gypsum Workers specifics:

> No committee of a local union shall have authority to sign or change a contract with any employer without first obtaining the approval of a majority of

8. See Roethlisberger and Dickson, Management and the Worker, Cambridge, Massachusetts, 1939.

9. Cf. Golden and Ruttenberg, The Dynamics of Industrial Democracy, New York, 1942, pp. 179ff.

the members attending a regular or specially called meeting. (1941 ed., Article 15, Section 3.)

Similarly, the constitution of the Granite Cutters provides:

Branches may make agreements to govern their localities but . . . it shall require a two-thirds vote of the good standing members present to endorse the proposed changes. (1941 ed., Section 96.)

The customary procedure utilized for the formulation of demands at the local level consists of the discussion of the proposals at a general or special meeting of the members. In some instances the proposals must first have been submitted to the local executive board, or some specially named or elected committee, and on the basis of these proposals the special body formulates a set of demands which are then discussed in the open meeting before a definitive formulation is made. In other instances the proposals are first put forward at the meeting by the rank and file and discussed on the floor.

In those cases where the negotiations affect several local units of the same national organization, adequate administrative procedures are usually (although not always) provided to afford the rank and file a say in the formulation of demands. In the Chicago locals of the Ladies Garment Workers, for example, " . . . several months before the expiration of an agreement, the executive boards of the various locals appoint committees for the purpose of formulating new demands upon the manufacturers. These committees receive and work out various suggestions and present them to the executive boards. The demands so formulated are then brought to the membership of the respective locals for discussion, alteration and ratification. Those accepted by the various locals are sent to the Joint Board, which turn over the task of consolidating the various demands into one coördinated document to an agreement committee, consisting of representatives of every local together with the manager and other officers."[1]

At the regional level, the demands are finally formulated by the representatives of the locals concerned, who come to the conference prepared to state the demands which their members have raised. This is the "typical" pattern, but exceptions do exist. In the West coast paper industry, for example, " . . . the organizers of the two collaborating unions draw up a tentative agreement

1. Carsel, W., A History of the Chicago Ladies Garment Workers' Union, Chicago, 1940, p. 244.

which forms the basis for discussion in the local unions. The locals submit their amendments to a general association meeting held just prior to the bargaining conference."[2]

Unions participating in national (industry-wide) bargaining formulate their demands either at the regular union convention or at a special conference called for this purpose. The United Mine Workers and the Potters rely on the former procedure, most of the railroad unions on the latter. In both instances, however, the *exact* form of the demands to be submitted to the employes is decided upon by the representatives of the rank and file, rather than by the members directly, contrary to the case of local negotiations. It should be noted, though, that the members, through the medium of their local units, have the opportunity to submit to these conventions or conferences various proposals which they would like to see incorporated in the demands.[3] It then becomes the function of the convention or the conference to act on these proposals, after having received the report of a special committee which has first gone over the proposals and made appropriate recommendations. In most instances the recommendations of the committee are accepted by the convention or conference delegates.

Although the United Steel Workers negotiate on a company-wide basis, the *general* policy to be pursued in the separate company-wide negotiations is decided upon at the regular union convention, or at a special wage parley in which the various geographical units of the organization are adequately represented. The same procedure holds true for the UE. In the case of the United Automobile Workers (CIO), on the other hand, who also negotiate on a company-wide basis, the demands are formulated at separate conferences of workers from each of the separate companies. It must be noted, however, that the policies of these separate conferences are almost identical in most instances. This becomes particularly evident when one realizes that a "wage leadership" policy prevails in the industry.

It is evident from the brief description in the preceding paragraphs that the rank and file does have (directly or indirectly) the right to a substantial voice in the formulation of demands to be

2. Chamberlain, N. W., Collective Bargaining Procedures, Washington, 1944, p. 12.

3. Cf. McCabe, D. A., National Collective Bargaining in the Pottery Industry, Baltimore, 1932, p. 122.

submitted to the employer. This "democratic control" cuts two ways, however. While it has the advantage of affording every member an opportunity to express his "work demands," it has the disadvantage of leading to greatly exaggerated demands upon management in many cases. This is largely the result of the failure of the rank and file to familiarize itself with the economic potentialities of the industry in question, although it is also, in part, a consequence of necessary bargaining tactics.[4] In the light of this, it is not surprising to find the national leaders warning the members (or their representatives) of the danger of greatly exaggerated demands. Thus, at the 1914 convention of the United Mine Workers, the delegates were addressed by one of the leaders in the following terms: "I think the time has come in our organization when we ought to quit jockeying, coming into conventions and putting our demands so high that we know it is a matter of impossibility to go out and get them. . . . We should not make our demands ridiculous, as we have been doing, but come right down to a concrete proposition and give the operators to understand that those are our demands. We should made our demands and know exactly what we are asking for, but they should be reasonable."[5] In the same vein, the president of the Flint Glass Workers wrote in his report for 1918: "When I reflect on the propositions contained in the proposed changes submitted by the manufacturers and workers for consideration at the annual conference, I am impelled to ask myself — Is it possible for us to pass through this coming conference and avoid trouble in all departments? Never were more unreasonable changes offered by either side than now appear in the propositions submitted. Both sides have taken a radical attitude in their suggestions, and I am positive that each must recede on some of these proposals before a satisfactory understanding can be reached. . . ."

III. The Negotiating Personnel and Its Powers

It was pointed out in the preceding section that, by and large, the members of American trade unions have the right to a voice in the formulation of the demands originally submitted to employers. It does not follow from this, however, that the members necessarily have the right to a voice in the agreement finally consummated. It

4. Cf. Shister, J., "The Economics of Collective Wage-Bargaining," Journal of Political Economy, August, 1943, pp. 340–341.

5. Convention Proceedings, 1914, p. 1096.

becomes necessary, therefore, to examine the locus of control in the negotiating process, in order to discover whether the wages, hours and conditions governing the work relationship of the union members really express the wishes of the rank and file.

The Make-Up of the Negotiating Personnel

In unions made up of several crafts (or sub-crafts), one of the important points in the locus of control over the negotiating process is the question of adequate representation of the various crafts (or sub-crafts) on the negotiating groups. In some unions negotiating at the local level, this problem is solved by the very nature of the structure of the locals. In most large printing centers, for example, the Pressmen's Union provides for separate locals for assistants, commercial pressmen and newspaper pressmen. The stereotypers and electrotypers, although members of the same national union, have separate locals in various cities. And in some unions where the locals have mixed membership, provisions are made to assure adequate representation for each separate craft group. Thus, in mixed local unions of the Broom and Whisk Makers, " . . . no members shall have a vote adopting a wage scale for tying or sewing brooms, except such members as are employed in that branch of trade . . . ."[6]

Many locals, however, are so organized structurally that the unit *does* contain mixed crafts. Each local unit of the Typographical, for example, contains members from both the newspapers and the commercial printing plants. In such instances the problem of adequate representation becomes a point of cardinal importance. What happens in practice[7] in these cases is that each craft (or sub-craft) is represented by its own men in negotiations with the different employers. Furthermore, the attendance at local meetings when wage contracts are discussed depends on which craft (or sub-craft) is negotiating; in other words, the members of the craft that is not negotiating do not take much interest in the meeting at which the proposed contract of the other craft is under discussion.

The negotiating committee of the local union engaged in bargaining with the employers is usually elected specifically for this purpose by the membership, but in some locals the committee is named by the local president.[8]

6. Constitution Governing Local Unions, 1942, Article 1.
7. From the author's field notes.
8. Cf. Typographical Union, Officers' Reports 1919, p. 217; 1921, p. 202

As regards bargaining at the regional and national levels, two points need comment here: (1) is adequate geographical and/or trade representation provided for on the negotiating committee? and (2) what proportion of the negotiating committee actually participates in direct negotiations with the employers? Each of these points will be considered separately.

With respect to the first point the pattern is definitely not uniform. Some unions provide for geographical and/or trade representation, while others do not. The United Mine Workers allow for geographical representation on their negotiating committees, as do the railroad unions; in both of these instances the basis of representation is the "intermediate" governmental unit, i.e. the district (the unit between the local and the national). The Federation of Glass, Ceramic and Silica Sand Workers provides specifically for geographical representation in the following form:

Each local in this Federation shall be entitled to one International Wage Committeeman for the first five hundred members or fraction thereof, and one additional International Wage Committeeman for each five hundred additional members or major fraction thereof. International Wage Committeemen shall be based on the members in good standing averaged over one year period previous to the Conference. (By-laws, 1944, Article 7, Section 1.)

The constitution of the Molders provides:

Each year in which a conference between the union and the employers is to be held a conference shall be called by the President prior to the meeting of the employers and the union, composed of not less than nine delegates who are employed in the stove and heater branch of the trade.
Each stove and heater local union shall send in the names of one Journeyman and one non-Journeyman member during the month of July, from which list of names the President and Executive Board shall select six Journeymen and three non-Journeymen, not more than one from each district. Not more than nine delegates and four officers, including the Secretary of the union and any other officer the President may deem necessary, shall attend these conferences. The President and Executive Board shall select six conferees, three of whom shall be National officers and three of whom shall be selected from the nine District delegates. The remaining six shall consult and be consulted with by the conferees upon such questions as may be considered of interest to the stove and heater branch of the trade. (Constitution 1942, Article 3, Section 26.)

The constitution of the Progressive Mine Workers specifies:

The Scale Committee from this District shall be composed of two members from each Board Member District, to be elected by a referendum vote, their names to be placed on the District ballot in the Regular District Election.

The Flint Glass Workers provide for both geographical and trade (craft) representation on the negotiating committee,[9] as do the Potters.[1]

In a number of unions the national executive board is entrusted with the right to act as a negotiating committee for the union. Whether this gives geographical regions and/or different crafts (or sub-crafts) within the union appropriate representation on the negotiating committee depends, of course, on how the executive boards in these unions are composed. In the following unions the executive boards are so composed as to afford representation on a geographical and/or trade basis: Window Glass Cutters' League, Painters, Carpenters, Newspaper Guild, United Leather Workers, Wall Paper Craftsmen, Lithographers, and Paving Cutters. The unions that do not provide for such representation are: Bridge and Structural Iron Workers, Retail and Wholesale Employees (CIO), Engravers and Sketchmakers, and Bill Posters.

The constitution of the Hotel and Restaurant Workers states:

> The president is authorized and empowered to negotiate and conclude wage contracts and agreements with Motion Picture Studios, Location Work and Road Show Employment Companies, or he may delegate this power to any person or persons as his representative. . . . He may negotiate working agreements with National chain hotel, restaurant or drug store companies or corporations, covering hours of work and employment conditions, allowing wage standards to be set by Local Union or Local Joint Executive Board holding jurisdiction. (1941 ed., Section 88.)

In the Air Line Pilots the President has the right to negotiate agreements, subject to the approval of the board of directors of the organization. The President of the Hod Carriers has the power to negotiate agreements in conjunction with the Secretary-Treasurer. In the Glass Bottle Blowers " . . . the international president appoints the negotiating committee, though not without some opposition from local unions who feel their own interests are not sufficiently advanced by representatives responsible only to the national office. . . ."[2]

We turn now to the second question previously raised — what proportion of the negotiating committee actually participates

9. Cf. Twentieth Century Fund, How Collective Bargaining Works, p. 701.

1. Cf. McCabe, D. A., National Collective Bargaining in the Pottery Industry, Baltimore, 1932, pp. 126ff.

2. Chamberlain, N.W., Collective Bargaining Procedures, American Council on Public Affairs, 1944, p. 30.

in direct negotiations with the employers? Given that the negotiating committee (at the regional or national level) is usually a large group, it becomes administratively undesirable to have the whole committee participate in negotiations with the employers. It has been found that when all the members participate, the negotiations become unwieldy. As a consequence the full negotiating committee designates a sub-committee (of only a few members) which actually carries on the negotiations with the employers. In the case of the United Mine Workers, for example, the wage policy committee, which has often contained more than a hundred members, has frequently been represented in negotiations with the employers by only two or three men. The sub-committee has to report back to the full committee and obtain the latter's approval for any action taken. As a rule, the full committee approves the action of the sub-committee. The implications of such approval will be analyzed below.

The evolution of the sub-committee method practiced in the regional negotiations of the Pacific Coast paper industry (involving the employers, the Paper Makers' Union, and the Pulp and Sulphite Workers' Union) is very significant for the problem under consideration. In the first agreement, negotiated in 1934, only a sub-committee of the unions' delegates actually negotiated with the employers; this sub-committee then reported back to the entire delegation. In 1935 all the delegates wanted to sit in on the entire negotiations, or at least listen to the negotiations; only a few, however, were admitted as observers. In 1936, the employers reluctantly consented to the demands of the union delegates, and agreed to the "gold fish bowl" method of negotiations. Under this method, the negotiating committees work in a small amphitheater, with the audience consisting of all the union delegates and employer representatives. Both the union and employer delegates in the audience act only as observers, and are not allowed to interfere with the actual negotiations in any way, even to the extent of applauding or shouting.

In company-wide negotiations involving the "large" corporations, the unions in question (United Steel Workers, United Automobile Workers, CIO, etc.) utilize the sub-committee method also. Thus, in the recent steel negotiations between the United Steel Workers and the U. S. Steel Corporation, Philip Murray carried on the actual negotiations for the union.

Power of the Negotiators

In negotiations at the local level, the negotiating committee is rarely given the power to come to a settlement without referring the recommendation back to the rank and file. This refers, of course, to full power conceded to the negotiators at the *outset* of negotiations. What does happen, not infrequently, is that after negotiations have proceeded for some time without substantial progress, the rank and file may give the negotiating committee full power to make a settlement.

It is interesting to note that union leaders at the local level unlike those at the national level, often would rather *not* have full power to make a settlement.[3] Their reasoning is that if a poor bargain is made with the union's consent, the membership cannot blame the leaders as they would if the leaders negotiated "on their own." This contrast in the attitudes of the local and national leaders is explained partly by the fact that most of the national leaders feel far more secure of their position than the local leaders do. And partly it is explained by the fact that the national leaders are not (sociologically speaking) as closely linked to the rank and file as the local leaders.

With respect to negotiations at the regional and national levels, there is no definite pattern in the power vested in the negotiators to make a settlement on their own. Not only does this power of settlement vary as between unions, but it varies for the same union over time. For example, in the case of the Paper Makers and Pulp and Sulphite Workers, the negotiating personnel on the West Coast was at first vested with the power of settlement, but later was deprived of it. In the case of certain departments in the Flint Glass Workers, on the other hand, the power of the negotiating committee was increased over time.[4]

Among the unions that spell out formally the full power of settlement for the negotiators, may be mentioned: Maintenance of

3. From the writer's field notes. For the views of some *national* leaders, see Slichter, S. H., Union Policies and Industrial Management, 1941, pp. 374ff.

4. This includes all the departments except the following: press, chimney, paste mould, and shade and globe. Even in those departments that now give full power to the negotiators, the referendum must be utilized in all cases where a reduction in wages or a general change in working conditions is involved.

Way Employees,[5] Locomotive Firemen and Enginemen,[6] Locomotive Engineers,[7] Painters,[8] Bridge and Structural Iron Workers,[9] Carpenters,[1] Hod Carriers,[2] Hotel and Restaurant Workers,[3] and Air Line Pilots.[4]

In some organizations, full power is often vested in the negotiators although there is no permanent formal mandate to this effect. Among these may be mentioned the Potters,[5] the United Steel Workers,[6] and the United Automobile Workers (CIO).[7]

Among the organizations that formally prohibit full power of settlement, the following may be noted: Railway Supervisors,[8]

5. "Joint Protective Boards shall have the power, with the approval of the Grand Lodge President or his designated representative, to enter into agreements with railway officials with respect to wages and terms of employment of the men they represent." (Laws Governing Protective Department, 1940, Section 14.)

6. "The association of general committees in conjunction with the International President, or his representative, shall have authority to prepare such revision of rates, rules and regulations of working agreements as may be deemed just and equitable." (Constitution, 1942, Article 15, Section 17a.)

7. "The right to make and interpret contracts, rules, rates of pay and working conditions for Locomotive Enginemen shall be vested in the regularly constituted Committees of the Brotherhood of Locomotive Engineers." (Standing Rules, 1942, Section 40a.)

8. "The General Executive Board is authorized to enter into international agreements for the performance of maintenance work for oil service stations." (Constitution, 1942, Section 71.)

9. "The General Executive Board . . . is empowered to enter into all agreements which in their judgment may be to the best interest of the membership of the Association." (Constitution, 1940, Article 12, Section 4.)

1. "The General Executive Board is empowered to make agreements with employers covering our jurisdiction, provided such agreements require employers to conform with the trade rules of the district where the work is located." (Constitution, 1941, Section 15h.)

2. The national president has the power to negotiate agreements in conjunction with the national secretary-treasurer.

3. See above p. 535.

4. See above p. 535.

5. Cf. McCabe, op. cit., pp. 126ff.

6. Cf. Convention Proceedings (SWOC) 1937, pp. 133–134; 1940, p. 67.

7. Cf. The United Auto Worker, June 12, 1940, p. 1.

8. "No agreement relative to the rates of pay or salaries, hours of labor or service, working conditions or rules of employment or relative to the relations of any member and his employer shall become valid or binding upon the Association or any of its members until such agreement has been submitted for consideration at a regular or special meeting of the subordinate lodge whose members are affected thereby and the agreement has been ratified by a majority of all those members to be affected by such agreement." (Constitution, Article 8, Section 6.)

Newspaper Guild,[9] Brick and Clay Workers,[1] and Railroad Trainmen.[2]

Some Analytic Implications of Negotiating Power

(1) It has been pointed out elsewhere[3] that the economics of the collective bargain is bound to be "sounder" when the negotiators are given full power to make a settlement than when the approval of the contract depends on the rank and file. This thesis is not, however, without its reservations and qualifications. In the first place, abuses of power on the part of negotiators have been found. For example, in October 1945, attempts by President Ryan of the Longshoremen (AFL) to conclude a contract with the New York shipowners resulted in a "revolt" on the part of the members affected; the latter claimed that Ryan was about to "sell them out."[4] Secondly, cases are available to show that the rank and file has agreed to "sound" bargains even though this involved making substantial concessions to the employers; the substantial cut in wages taken by the Hosiery Workers in 1931–32 is a case in point.[5] Finally, it should be noted that some of the results flowing from "full power of settlement" can often be attained by appropriate administrative measures within the union, without relying on full power of settlement.[6]

Regardless of the above qualifications, however, it is probably true that, in most instances, the economic bargain concluded by the leaders will be sounder than it would have been, had the

9. "The power and duty to bargain collectively for the members of the American Newspaper Guild who are employees of press associations, feature syndicates or news photo agencies of national scope shall rest exclusively in the International Executive Board, but no agreement reached in behalf of these members shall be signed unless ratified by them. . . ." (Constitution, 1943, Article 18, Section 5.)

1. The negotiation of agreements is under the jurisdiction of district councils, but they are submitted to the locals concerned for approval before being signed.

2. "A general committee shall not revise or change a general or system wage schedule or agreement unless authorized to do so by a majority of those voting in a referendum of the members on the system who are affected." (General Rules, No. 3.)

3. Slichter, op. cit., pp. 374ff.

4. New York Times, October 25, 1945. An injunction was issued against Ryan, which was later reversed by a higher New York State court.

5. See Twentieth Century Fund, op. cit., p. 485.

6. Cf. the writer's article on "The Theory of Union Wage Rigidity," — this Journal, August, 1943, pp. 534–535.

approval of the rank and file been necessary. But a union is more than an economic element of the market place. It is also a body politic, and one of its principal functions in the latter respect is to articulate the desires of the rank and file. As a consequence, the establishment of full power of settlement for the leaders, though desirable economically, might well be undesirable sociologically. This poses a very nice question, and emphasizes the inter-relationship between the "politics" and "economics" of the collective bargaining process.

(2) Full power of settlement is a concept which must be interpreted with respect to other variables of the collective bargain, in order to have realistic content. Two of these variables may be noted here. First, full power of settlement must be evaluated in the light of the historical stage of the collective bargain in question. It has been shown[7] that when a union begins to bargain collectively, it is preferable *not* to entrust the negotiators with full power of settlement, because of psychological considerations; but once the union is firmly entrenched, these factors are of "negligible" importance.

The area of the collective bargain is a second determinant of the desirability of full power of settlement. In negotiations on the local level, there is probably a great deal of educative value attached to the negotiation of agreements *without* full power being vested in the conferees. Under these circumstances, the union members who attend the meetings at which the conferees report back the results of their negotiations, learn a great deal about the problems faced in the collective bargaining process. It is hardly likely that such a procedure would be employed if the scale committee were given the power to make a final settlement; in such a case, they would simply go on with the negotiations and not bother to report to the union membership. It should be noted, however, that this reporting back to the membership cuts two ways: if it has the advantage of educating the membership, it has the disadvantage of slowing up the negotiations with the employers.

At the national level (and this would also apply to the regional level) of negotiations, there is probably far less of a "case" to be made for depriving the conferees of the power of settlement. In national agreements, the approval of the membership is usually

7. Selekman, B. M., "When the Union Enters," Harvard Business Review, Vol. 23 (1944), p. 140.

in the form of a referendum vote. Here, therefore, there is little educative value involved in the process; it is not like the case of purely local negotiations, where the conferees can report back to the membership at periodic intervals. To be sure, the national conferees can reach the membership through the union press; but anyone who has read these reports realizes their inadequacy from an educational standpoint, mainly because they are usually very vague and brief. Nor can it be argued that the defect in the referendum procedure could be remedied by requiring that national agreements should be approved at local meetings called for this purpose. Who could inform each local as to exactly what went on in the negotiations? In local collective bargaining such information is communicated by the very conferees themselves; but how is it feasible to do this in national negotiations, given the large number of locals that are covered by a national agreement? Perhaps one could call special conventions to discuss approval or rejection of the terms recommended by the national conferees, but this might be impracticable because of the heavy expense. Further, it would not be as instructive for the rank and file as are the discussions of local agreements in which every member who wants to can participate directly.

(3) It was pointed out above that in negotiations at the regional and national level, the actual negotiations with the employers are carried on by a very small portion of the entire negotiating committee. This has significant consequences with respect to the locus of control over the collective bargain actually consummated. The recommendations which the sub-committee makes to the entire committee are usually followed, *provided* these recommendations are not below certain minimum wage and condition standards to which the committee subscribes.[8] As a consequence, the sub-committee is the group that really consummates the bargain above the minimum in question. In other words, the sub-committee has (in practice) freedom to conclude the bargain at any point beyond the minimum in question.

Now, if the negotiating committee has full power to make a settlement, it follows that the control over the bargain (if concluded at the minimum point or higher) rests with the sub-committee. If, on the other hand, the negotiating committee (as a whole) does not have the power of settlement, then the question

8. From the writer's field notes.

arises: does the rank and file approve the recommendations submitted by the committee as a whole? As a rule, the rank and file does,[9] but here again there are certain minima upon which the rank and file insists, although it will accept any recommendation above them.

IV. Coöperative Action Among Different Unions

In the preceding sections it was implicitly assumed that where two or more units of different national unions bargain with a given group of employers, they do so separately. Although this is true in most instances, it is not universally so. Coöperation in collective bargaining among otherwise autonomous units of different national unions does take place. Although the instances are not numerous currently, they have developed over time, so that the trend has been toward coöperative action in such industries as the railroads,[1] building construction,[2] commercial printing,[3] paper and pulp,[4] and ship construction and repairs.[5] The significant point about this is that, in some instances, if shifts the locus of control over collective bargaining from a single union to a group of unions conceived as an aggregate unit.

The coöperation in question has taken different forms, but in all instances the coöperating units first decide jointly on the demands to be submitted to the employers, so that they are all aware of what each one of them will do. The differences arise in the manner of conducting the joint negotiations. In some cases, each of the units bargains separately, although all the units sit in together at the negotiations. This is true, for instance, in the printing trades in

9. Cf. Bloch, L., Labor Agreements in Coal Mines, Russell Sage Foundation, 1931, pp. 88–89.

1. In negotiations at the national level, all the crafts have negotiated jointly in some instances, although frequently a separation has obtained between the operating and the non-operating crafts.

2. Here there is usually cooperation among most (although not all) of the principal crafts in most of the large building centers. (Cf. Christenson, C. L., Collective Bargaining in Chicago 1929–1930, Chicago, 1933, pp. 29ff.; Haber, W., Industrial Relations in the Building Industry, Cambridge, Mass., 1930.)

3. Cooperation has existed among the various commercial printing crafts, at one time or another, in the following cities: St. Louis, Rochester, Baltimore, Tacoma and Cincinnati.

4. Here the main cooperation has been between the Paper Makers and the Pulp and Sulphite Workers, although from time to time some of the other unions connected with the industry (Machinists, Carpenters, Electrical Workers) have also participated.

5. Notably among the unions in the A. F. of L. metal trades department.

Cincinnati, when they negotiate jointly with the commercial firms. In other instances, the various units present a "united front" in the bargaining process, so that no unit concludes a contract unless the demands of all are met. This is true in the building trades, for example. Finally, in some instances — the railroad unions are a case in point — all the crafts in question will bargain jointly for a uniform demand (usually a given wage increase), but they do not necessarily all have to wait until one (or more) of the crafts agrees to a contract.

The administrative channels through which the coöperative action is carried out between unions will vary with the case in question. For example, while in the case of the railroad unions specially elected committees of the unions concerned work together jointly, in the case of the building trades the negotiating burden is allocated to the local building trades council.

Coöperation between unions in collective bargaining has grown somewhat over time, although, as pointed out above, it still is but meagerly developed, despite the fact that there are numerous areas where it is feasible. There are two basic reasons for this state of affairs. In the first place, the "stronger" units fear that coöperation with the "weaker" ones might endanger their (the strongers') chances of gaining concessions from the employers;[6] the bargaining power, in other words, is bound to be affected, according to the organizations involved. In the second place, union leadership is sometimes opposed to joint action because of the fear that such action might have unfavorable effects on the standing of individual union leaders.

This lack of coöperation between complementary bargaining units has certain significant economic results. Where each of a number of crafts bargains individually, it can emphasize the fact that its cost to the employer is only a very small portion of total costs. In this way it might well succeed in "nibbling away" important concessions from the employers. In coöperative bargaining by several crafts, however, this does not hold true. On the

6. Thus, Emily Brown writes about lack of coöperation in certain commercial printing centers: "Stronger unions hesitate to give up their special advantage in bargaining by coöperating with the weaker ones, while the weaker sometimes feel inadequate attention to their interests in joint action. The problem of wage differentials, especially, hinders cooperation unless the existing structure is satisfactory." (How Collective Bargaining Works, Twentieth Century Fund, p. 141.)

other hand, it must be remembered that coöperation in bargaining often entails coöperation in strikes, and thus probably increases the bargaining power of the unions affected in some circumstances. It must be noted, however, that in some industries a strike on the part of one craft alone is enough to tie up the industry — printing is a case in point.

The wage structure within the industry is bound to be influenced by the degree of coöperation between the various crafts concerned. On the whole, the data reveal that where there is coöperation the *variations* in the *relative* wage rates over time will be far less than where no coöperation obtains.[7] This makes for a more rational wage structure as between the crafts, and helps to mitigate industrial conflict; for lack of harmonious relations between labor and management is often attributable to the fact that the relationship between the wage rates of the various autonomous crafts in the given employer bargaining unit has been distorted over time. Further, where coöperation exists, working conditions among the crafts will be more uniform.

Where negotiations are conducted independently by the various complementary crafts, it follows that the employers have to spend a larger proportion of their time in bargaining with their organized help. This not only means more costs to the employer, but also tends to create a policy of "wage leadership" within the bargaining unit in question. This policy of "wage leadership," in turn, only accentuates the length of negotiations, since each union is reluctant to come to a settlement until it sees what one (or more) of the other crafts has been able to obtain.

Summary and Conclusions

(1) It has been shown that even where collective bargaining is conducted at the local level, the local in question is not always completely free in bargaining. Control by the national office, in one form or another, is usually present to restrict the complete freedom of the local. In briefer terms: a dual locus of control is generated by the existence of different governmental groups within the union hierarchy. The significant point in this dual locus is the fact that the concession by the local of a certain portion of its autonomy is yielded voluntarily to the national, because of structural conditions requiring it. Further, national control over

7. From the writer's field notes. Cf. Palmer, G., op. cit., p. 61.

subordinate collective bargaining has important results for the economics of the bargain concluded.

(2) The ultimate control over collective bargaining in most unions does rest with the rank and file. This is true of all the steps from the formulation of demands to the final approval of the contract. True, the full power of settlement is sometimes vested in the negotiators, but the significant point is that this power is voluntarily entrusted to the leaders by the rank and file in most instances. It is true, further, that (especially) in national negotiations, the actual control over the bargain — in practice — rests with a small sub-committee of the negotiating group. But here again the condition has been brought about by necessary structural conditions, and was not imposed on the rank and file by leadership.

(3) Coöperation in collective bargaining among unions dealing with the same employer unit has increased in recent years, but is still very far from widespread. The interesting point in the analysis of this state of affairs is that the lack of greater coöperation is attributable only partly to structural conditions. One must also look to the "lust for power" on the part of certain union leaders for the failure of coöperation to spread more rapidly. Finally, it should be noted that coöperation among unions in collective bargaining has important economic effects on the nature of the collective bargain.

(4) The appearance of the trade union has a significant impact on the operation of the labor market, not only in the sense that the bargaining power of the "average" worker is enhanced, but also — and more significantly for the purposes of this analysis — in the sense that the variables of the market place are interrelated with the political control within the union, an interrelationship which has often manifested itself in the form of a conflict between the "political" and the "economic" aspects of collective bargaining. The problem of "full power of settlement" illustrates this latter point rather strikingly.

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"OUT-OF-POCKET" COST IN RAILROAD FREIGHT RATES

SUMMARY

I. Introduction: significance of the problem, 546. — II. Meaning of the term, 547. — Usage in Commission opinions, 549. — Additional specific traffic, 550. — Additional traffic of specific type, 551. — Additional general traffic, 551. — III. Applications of the principle, 552. — IV. Theoretical analysis, 555. — V. Conclusion, 559.

I. Introduction

For many years the concept of "out-of-pocket" costs has been an important factor in fixing railway freight rates, particularly in setting rates upon low-grade commodities, or in considering the revenue-producing potentiality of certain types of traffic.[1] The term has been used by the Interstate Commerce Commission, by carriers, and in some cases by shippers to designate the costs that are assignable directly to a particular service or particular movements of traffic and that would not be incurred if the service or movements were not performed. In competitive circumstances, where traffic cannot be secured at a higher rate, the Interstate Commerce Commission and the carriers generally have agreed, and shippers have contended it is sound pricing policy, to establish a rate yielding any revenue, however slight, in excess of out-of-pocket cost, even though the rate is insufficient to cover the total cost of handling the traffic. This policy has been supported on the ground that the revenue above out-of-pocket expenses attributable to a particular service can be applied to meet other than out-of-pocket costs, that is, fixed costs, which accrue whether or not the service in question is performed.

The validity of the reasoning offered in support of this doctrine has been unchallenged for a long time. As early as 1912, the Commission said:

> It is a well-established and generally recognized rule that if additional business can be taken in at rates which will contribute at least a little in addition to the actual out-of-pocket expense, the carrier will be advantaged to the

1. The authors desire to acknowledge the aid of Professor Raymond T. Bye of the University of Pennsylvania in making numerous suggestions and criticisms.

extent to which such traffic contributes to the net revenue. It is obvious that without the amount of net contributed by this class of traffic, assuming a certain amount of revenue to be necessary, such revenue must be contributed entirely by the remaining traffic and the exclusion of this competitive traffic would increase the burden upon the other traffic to a corresponding extent.[2]

Since 1912 numerous cases have been adjudicated by the Commission in which the "out-of-pocket" doctrine has been directly in issue. While the Commission on occasion has refused in such cases to fix rates on this basis, the validity of the reasoning that the carrier is "advantaged" to the extent to which additional traffic contributes revenue above out-of-pocket expense, and that the amount contributed reduces correspondingly the burden upon other traffic has never been critically examined. The "out-of-pocket" principle has often been invoked by both the Commission and the railroads when competition with other forms of transport, especially motor and water carriers, has been encountered.

The immediate postwar period may well witness an intensification of competition between rail, water, air, and pipeline carriers, and the problem of establishing rates for competitive services looms larger than ever. In that event, the search for sound rate-making principles to be followed in making rates by different types of carriers will become an urgent necessity. It may, therefore, be useful to examine more closely the opinions of the Commission dealing with the "out-of-pocket" concept, with a view to determining its precise meaning and economic significance in order to appraise its possibilities in serving as a rate-making principle.

II. Meaning of the Term

The meaning of the term "out-of-pocket" cost, as it has been used by the Commission, is not free from ambiguity. One reason for this is that "out-of-pocket" cost is unknown in the terminology employed in theoretical economic analysis. Theoretical cost categories include total, fixed, average variable, and marginal costs. While the meaning of these terms is precise and unambiguous, and familiar matter to students of economics, it will be helpful to restate these definitions at this point in order to fit the "out-of-pocket" cost concept into its proper theoretical category.

We are dealing here with the behavior of costs in the short-run

2. Boileau et al. v. Pittsburgh and Lake Erie R. R. Co. (24 I.C.C. 129, 132). 1912.

for a single railroad concern with a plant of a given scale.[3] The "short-run" is a period long enough to permit any change in the volume of traffic without altering plant and equipment.[4] "Fixed costs" arise from the fixed factors of production; in the case of a railroad they include interest on indebtedness, return on investment, general administrative expenses and other expenses that are incurred regardless of changes in the volume of traffic. Only the aggregate of fixed costs remains unchanged; fixed costs per unit vary with the volume of traffic. Variable costs, often termed direct costs, fluctuate in their aggregate as traffic changes; and variable costs per unit also change, unless the increase or decrease in such costs is exactly in proportion to the increase or decrease in the variations of traffic. Examples of variable costs in the railroad industry are fuel, maintenance, that part of depreciation caused by increased use of equipment, and wages for labor associated with changes in traffic. Total costs are, of course, the sum of fixed and variable costs, and may be computed in the aggregate or on a per-unit basis. Marginal cost is the increase in total aggregate cost as any given output is increased by one unit. As applied to railroad traffic, marginal cost is the additional cost incurred by increasing the volume of traffic by a ton-mile, a car-mile, or some other unit.

It is particularly essential to distinguish marginal from average variable cost. Marginal cost is the incremental cost, whereas average variable cost is the quotient of aggregate variable cost divided by the number of units of output or traffic.[5] They are equal only in the one instance when average variable cost is constant. It should be quite obvious that when average variable cost is increasing, marginal cost is above such variable cost. In-

3. We are also concerned here only with an analysis of the "out-of-pocket" principle in the circumstances in which the Commission has discussed it. We are not offering a comprehensive analysis of rate making principles. Such an analysis would, inter alia, require treatment of the application of the principle of joint costs to the railroad industry. Joint costs, however, have not been a factor in the cases surveyed in this discussion. See Professor Donald H. Wallace, this Journal, Vol. 48 (1934) p. 583, "Joint and Overhead Cost and Railway Rate Policy."

4. Professor J. Viner, Zeitschrift für Nationalökonomie, Bd. III, September, 1931, p. 26. Professor Viner's analysis is closely followed in the definition of cost terms.

5. Average variable and marginal costs are sometimes confused, even by competent theorists. See Garver and Hansen, Principles of Economics, Revised Edition, p. 161.

creasing variable cost is commonly assumed in theoretical analysis and is attributed to the law of diminishing returns. Conversely, when variable cost is declining, marginal cost lies below it. Declining variable cost per unit, while logically admissible for theoretical purposes, is probably rarely experienced in any industry, and there is no reason to believe it exists in railroad transport, except under extreme conditions of underutilization.

A study of Commission opinions indicates that "out-of-pocket" costs are, in fact, average variable costs, although the Commission has often used language implying marginal cost. In Middle Atlantic States Motor Carrier Conference, Inc. v. Central R. Co. of N. J. et al, for example, the Commission said:

> The addition of another car to a freight train doubtless makes but a slight increase in the cost of operating the train, so slight indeed that the "out-of-pocket" cost of moving any particular car may be calculated, on that basis, as practically zero.[6]

If the additional car be considered the incremental unit here, out-of-pocket cost certainly is marginal cost. As will be seen, however, computations introduced by the carriers before the Commission to establish out-of-pocket cost have, without exception, really been concerned with average variable costs; and the Commission, regardless of its language, has employed the term "out-of-pocket costs" to denote average variable costs.

A principal source of ambiguity has been the application of the principle to "additional business" or "additional traffic." In the typical case the assumption is that the carrier is assured of a certain volume of "normal" or "standard" traffic, which presumably is not exposed to competition. In these circumstances, other traffic, subject to keen competition, is available provided the rate is low enough, and this is regarded as "additional" traffic.[7] The term "additional" savors strongly to the theoretically minded of "incremental," which is inherent in the marginal cost concept.

Three different situations are distinguishable in which out-of-pocket cost has been in issue before the Commission in fixing rates on additional traffic. In one, the Commission has been concerned with rates for additional specific and identifiable lots or movements of traffic; in another, with rates for additional traffic

6. (232 I.C.C. 381, 391), 1939.

7. Normal traffic may for purposes of "out-of-pocket" cost become "additional" when it becomes competitive.

of a specific type, such as coal, crude oil or grain; in the third, with rates for additional quantities of traffic generally.[8] An examination of the cases reveals that although the Commission opinions, in the first situation especially, suggest that out-of-pocket cost is used in the sense of marginal cost, the term refers really to average variable cost in all three.

(a) *Additional Specific Traffic*

In Refrigeration Charges From Florida, for example, there is much to suggest marginal rather than average variable cost. The Commission said:

> But in dealing with the refrigeration charge as distinguished from the transportation charge the question is as to how much the operating expenses are increased by hauling the added weight of the ice. The train is already in operation. The freight rate is presumed to cover all the costs above referred to except as incident to the ice. The added weight of the ice entails the consumption of a little more fuel and a little more wear and tear on the engine, equipment, rails, and roadbed, but adds little if anything to other items, such as labor, which no doubt constitutes more than half the cost. Instead of contributing in proportion pro-rata to the total cost of transportation the ice transportation service perhaps should contribute on the basis of the out-of-pocket costs incident to the additional gross car weight due to the ice. The out-of-pocket costs possibly do not exceed 50 per cent of the total costs.[9]

In speaking of the out-of-pocket costs incident to the additional gross car weight due to the ice, the Commission was certainly using language that could be construed fairly as indicating marginal cost. In fact, however, the evidence before the Commission related to average variable cost per ton mile or per car mile.

A more recent case involving the application of "out-of-pocket" cost to specific services is In Switching Rates In Chicago Switching District.[1] There the carriers proposed to reduce rates on tin plate, tin can ends, and tin cans, in carloads, between the plants of the Continental Can Company at Cragin and Clearing, Illinois, within the Illinois portion of the Chicago Switching District The carriers desired the lower rates for the purpose of attracting the traffic in competition with motor carriers. The Commission fixed a rate slightly in excess of the "average out-of-pocket" cost per

8. The three situations tend to overlap. The distinctions suggested are clear, however, in many cases.

9. I. and S. Docket No. 1878, (85 I.C.C. 247, 252), 1923.

1. (238 I.C.C. 303), 1940.

car. This is one of the rare cases in which the Commission was explicit in characterizing out-of-pocket cost as average cost.[2]

(b) *Additional Traffic of Specific Type*

As the character of the service broadens from the movement of specific identifiable lots or units of traffic to the transport of a type or class of commodities, it becomes more apparent that the out-of-pocket concept is used as meaning average rather than marginal cost. Thus, in the Lake Cargo Coal Case, the carriers proposed to reduce rates on bituminous coal moving in carloads from mines in southern West Virginia, eastern Kentucky, eastern Tennessee and southwestern Virginia to Toledo and Sandusky, Ohio, for transshipment by vessel to destinations beyond.[3] The carriers in supporting the rates contended they were substantially in excess of out-of-pocket costs. The Commission in referring to the cost data introduced in the testimony expressly designated them as "average out-of-pocket costs."[4]

Similarly, the Commission in passing on the reasonableness of reduced rates on asphaltum, barley, beans and canned goods from Pacific Coast points to Atlantic ports in a Fourth Section application, compared the proposed rates with the out-of-pocket cost per car mile.[5] In Crude Oil From Louisiana Points,[6] again the cost evidence before the Commission consisted of computations showing the average out-of-pocket cost per ton mile in moving crude oil from certain points in Louisiana to the Beaumont-Port Arthur, Texas area.[7]

(c) *Additional General Traffic*

The Commission has had occasion to consider out-of-pocket cost of additional general traffic most frequently in connection

2. See also to the same effect: Electrical Appliances From Knoxville, Tenn. (237 I.C.C. 86) 1940: All Freight Between Portland and Seattle, (238 I.C.C. 729), 1940; and Handling Charges on Cement, Fertilizer and Salt, (93 I.C.C. 640), 1924.

3. I. and S. Docket No. 3967, (139 I.C.C. 367), 1928.

4. Ibid, page 374.

5. Fourth Section Application No. 9813, (33 I.C.C. 480, 484), 1915.

6. I. and S. Docket No. 1648, (74 I.C.C. 623), 1922.

7. See also Dewey Bros. Co. v. P. C. C. and St. L. R. Co. (46 I.C.C. 388), 1917 (grain production) Transcontinental East Bound Sugar, (186 I.C.C. 523, 528), 1932; Canned Goods between California Points, (188 I.C.C. 589, 590), 1932; Los Angeles Lumber Products Co. v. S. P. Co., (104 I.C.C. 297, 314, 318), 1925; and Eastern Livestock Cases of 1926, (144 I.C.C. 731, 752), 1928.

with Fourth Section applications to establish lower rates for shorter distance hauls than for hauls to or from more distant points via routes over which the less distant points are intermediate to the more distant points. Such applications involving general traffic were to be expected, since historically they resulted from rail competition with water carriers transporting traffic of all kinds. An early leading case is Fourth Section Violations in the Southeast,[8] in which rates on a large variety of commodities and products were in issue. The out-of-pocket cost concept applied by the Commission was the average car-mile expense incurred by three of the principal carriers involved in the case.[9] In another Fourth Section case, Transcontinental Cases of 1922,[1] the Commission similarly had before it evidence bearing on average out-of-pocket cost per carload which was derived from the cost of hauling carloads of various types of traffic.[2] In Memphis-Southwestern Investigation, Fourth Section Matters,[3] the Commission dealt with evidence of out-of-pocket costs per car mile for added traffic, and the computations were apparently made for loaded cars, regardless of the character of the freight.[4]

III. Application of the Principle

The conditions under which the Commission has applied the out-of-pocket cost principle in fixing rates were fully defined and summarized in Transcontinental Cases of 1922, referred to in the preceding paragraph. The Commission there stated that a rate imposed by a regulatory body which is based on out-of-pocket cost alone would be confiscatory. To be lawful the rate must be sufficient "to cover a ratable proportion of the average cost of freight traffic generally, including a return on the property devoted to public service."[5] This clearly signified total cost.

Where, however, carriers voluntarily proposed to reduce certain rates to an "out-of-pocket plus basis," in order to augment the total traffic carried, the Commission approved the application of the principle on the supposition that the additional traffic increased

8. (30 I.C.C. 153), 1914.
9. Ibid, p. 176
1. (74 I.C.C. 48), 1922.
2. Ibid, p. 75.
3. (142 I.C.C. 139), 1928.
4. Ibid, p.142.
5. (74 I.C.C. 48 at 69), 1922.

the net revenue. In that event, the Commission reasoned that the increase in net revenue afforded "the possibility of lightening the burden" upon other traffic.[6]

The Commission laid down certain requirements of a rate based on out-of-pocket cost:[7]

(1) the rate must cover, and more than cover, the extra or additional expenses incurred in handling the traffic to which it applies;

(2) the rate must be no lower than necessary to meet existing competition;

(3) the rate must not be so low as to threaten the extinction of legitimate competition by water carriers;

(4) the rate must not impose an undue burden on other traffic or jeopardize the appropriate return on the value of carrier property generally.[8]

At the same time the Commission cautioned that "too wide an extension of the out-of-pocket theory would transpose the entire burden of producing dividends and interest and meeting other fixed charges upon only a part of the traffic carried."[9] In Commodity Rates to Pacific Coast Terminals, the Commission added another limitation to the application of the out-of-pocket principle. The Commission there weighed the benefit accruing to rail carriers in attracting additional traffic through low rates as against the detriment which competing water carriers would suffer if they were deprived of the traffic. The Commission found that the tonnage of the water lines was but a small fraction of that of the transcontinental railroads involved in the case, and that the diversion of any substantial tonnage from the water lines would do them serious financial injury, while but slightly benefiting the rail carriers. Citing Section 500 of the Transportation Act (1920), which declared the policy of Congress to be "to promote, encourage and develop water transportation services and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation," the Commission denied the application of

6. Ibid, p. 70.

7. Ibid, p. 71.

8. In the case before it the Commission was construing a "reasonably compensatory" rate under the Fourth Section of the Interstate Commerce Act, as amended by the Transportation Act of 1920. What was meant, however, was a rate based on out-of-pocket cost.

9. (74 I.C.C. 48 at 71), 1922.

the railroad carriers to establish reduced railroad rates on certain commodities based on out-of-pocket costs.[1]

In general, the Commission in recent cases has evinced reluctance in fixing rates on out-of-pocket costs, and has tended to confine such rates to additional specific traffic or services.[2] Furthermore, procedural changes in the Transportation Act of 1940 have been interpreted by the Commission as requiring it to scrutinize rate reductions more carefully than under the prior Act. Before the Act of 1940, the burden was not on carriers proposing a reduction in rates to show that the proposed rates were just and reasonable. As matters now stand, however, it is specifically provided that "the burden of proof shall be upon the carrier to show that the proposed changed rate — (or) classification — is just and reasonable."[3] Under this provision the Commission has declared that reductions in rates must be shown by affirmative proof to be "just and reasonable."[4]

Despite this tendency to restrict the application of out-of-pocket cost, the basic reasoning followed in the earlier cases has never been rejected by the Commission. This is clearly apparent from the opinion in a recent case where the Commission said: "Out-of-pocket costs may be indicative of the extent to which carriers may go in meeting competition without financial loss, and we have found such rates to be compensatory and not unreasonable per se when made to meet compelling competition."[5] It is equally clear from the opinion in the same case that the strongest factor impelling the Commission to restrict the practice of fixing rates on out-of-pocket costs to additional specific traffic is the fear "that if all or a large proportion of carload rates were brought down to such a level, the vitality of the railroad system would be destroyed."[6] In taking this position, the Commission does not appear to be supported by logic. For if a rate based on out-of-pocket cost affords "the possibility of lightening the burden" upon other traffic, the possibility exists regardless of the volume of traffic to which the rate is applied.

1. Fourth Section Application No. 12436 (107 I.C.C. 438, 439), 1926.
2. As in Switching Rates in Chicago Switching District (238 I.C.C. 303), 1940, referred to above.
3. Sec. 15 (7) Interstate Commerce Act.
4. See All Freight from Eastern Ports to the South (251 I.C.C. 361, 367), 1942, and Drugs in Southern Territory (246 I.C.C. 563, 571–572), 1941.
5. (251 I.C.C., 361, 367), 1942.
6. Ibid, p. 367.

IV. Theoretical Analysis

It remains to analyze the out-of-pocket principle, as developed and applied by the Commission, in the light of the conventional cost categories of economic theory. What is perfectly clear at the outset is that out-of-pocket cost is the average variable cost of "additional" traffic, not of all traffic. What is not so clear is the relationship between out-of-pocket cost and marginal cost.

We have defined marginal cost as the increase in total cost as any given output is increased by one unit. More precisely, marginal cost "measures the rate of increase of total cost and approximates to the cost of a small additional unit of output from the given level."[7] Where the Commission, therefore, has fixed rates on the basis of out-of-pocket cost for relatively small additional quantities of traffic,[8] out-of-pocket cost approaches marginal cost. Even then, out-of-pocket and marginal costs are by no means identical, because the application of the marginal cost principle requires the determination of the cost incurred in handling the smallest possible additional unit of traffic the cost of which can be practicably ascertained.[9] This unit is unlikely to be a ton mile, since the additional cost of an additional ton mile is probably imperceptible in any real situation. It may possibly be a car mile; but it is more likely to be a larger unit, such as the additional cost of handling the freight and hauling an additional car between points of origin and destination. In any event, no evidence appears in Commission opinions that any attempt has been made to determine marginal cost from this point of view. What the Commission has done has been to compute the average variable cost of additional traffic, regardless of amount.[1]

Where the amount of the additional traffic is substantial, its

7. R. G. D. Allen, Mathematical Analysis for Economists, (1939) p. 155: "If output is increased by an amount Δx from a certain level x and if the corresponding increase in cost is $\Delta \pi$, then the increase in cost per unit increase in output is $\frac{\Delta \pi}{\Delta x}$. Marginal cost is defined as the limiting value of this ratio as Δx gets smaller, i.e. marginal cost is the derivative of the total cost function $\pi = F(x)$. It measures the rate of increase of total cost and approximates to the cost of a small additional unit of output from the given level."

8. That is, Additional Specific Traffic. Cf. p. 550 above.

9. The authors of this paper are grateful to Prof. Edward H. Chamberlain of Harvard University for criticisms and suggestions concerning the average variable cost of additional traffic and its relation to marginal cost.

1. P. 551 above.

average variable cost is likely to depart markedly from marginal cost. This is clearly the situation in the cases involving relatively large quantities of additional general traffic.[2] The "additional" traffic in these cases certainly cannot be said to constitute "a small additional unit of output" from a given level, without doing violence to the marginal concept. Except under conditions of constant average variable cost, the marginal cost of additional traffic differs from average variable cost. When average variable cost is decreasing, marginal cost lies below it, and when average variable cost is increasing, marginal cost lies above it. The argument of the Commission that any rate in excess of out-of-pocket expense benefits the carrier and lightens the burden on other traffic must be tested in each of these cost situations.

The case of constant average variable cost and that of decreasing variable cost of additional traffic may be summarily disposed of. In both these situations revenues in excess of average variable cost are available to meet fixed costs, and the argument of the Commission appears valid. Constant and decreasing variable costs are, however, troublesome both from a theoretical and practical viewpoint, because they furnish no basis for the determination of the most economical output, that is, the output at which losses are minimized.[3] In the case of the railroads it is impossible in the circumstances to determine precisely the volume of traffic that should be properly accepted for transport. All that can be said, and the Commission in effect has said it when following the out-of-pocket principle, is that if the total cost of handling additional traffic cannot be obtained, then it is in the interest of the carriers to accept any rate in excess of average variable cost.

Under conditions of increasing average variable cost of additional traffic, however, the reasoning of the Commission is subject to important modification. Marginal cost is then above average

2. Ibid.

3. Assuming, always, that both marginal and variable costs are less than total cost. This was undoubtedly true in all the cases in which rates based on out-of-pocket cost were in issue before the Commission.

It must be also borne in mind that the demand curve for the additional traffic is horizontal, that is, one rate is established for all the additional traffic involved in any particular case before the Commission. It is, of course, generally true that losses are minimized (or gains maximized) by restricting output to the point at which marginal cost equals price. But this consideration is of no consequence when marginal cost is less than average variable cost, because if there is no output at all the loss is less than when producing for a price equal to marginal cost.

variable cost, and a rate based on average variable cost increases the revenue available for fixed cost only up to the point at which marginal cost is equal to the rate. All traffic accepted in excess of that amount is handled at a marginal cost higher than the rate, and, therefore, reduces the amount of net revenue available when the volume of traffic is restricted to the point at which marginal cost equals the rate. It is true that when marginal costs are rising, the marginal cost of the "first" unit of the block of traffic is lower than the average variable cost of the block, and that while the marginal cost of the "last" unit of that traffic is higher than the average variable cost of the block, the added costs of the block as a whole are covered by fixing rates slightly in excess of average variable cost. But it is difficult to support a rate below the marginal cost incurred in handling any portion of the traffic. That portion not only contributes nothing to fixed costs but actually reduces the amount of revenue in excess of average variable cost. There is nothing in the Commission opinions indicating that the railroads would lose all the "additional" traffic in issue in the cases unless the block as a whole were accepted at a rate based on average variable cost. The cases do not disclose the behavior of marginal cost, and no evidence is available, therefore, that rates based on marginal cost would divert the additional traffic from the railroads. It would, however, be entirely consistent with sound economic principle to divert that portion of the traffic accepted by the railroads at rates below marginal cost to other forms of transport, if the rates of the latter were not below their marginal costs. In that event, the railroads would be truly "advantaged" and the traffic allocated on the basis of sound economic principle.

Since the cases decided by the Commission do not reveal the behavior of marginal cost, it is impossible to appraise the actual effect of the rates established on the basis of the "out-of-pocket" principle. It is a reasonable assumption, however, that the carriers have frequently requested the establishment of low rates on this principle when plant and equipment have been under-utilized in substantial measure. In that situation it is plausible to assume constant marginal and average variable costs. There is no reason to expect decreasing costs in any situation likely to be actually experienced. On the other hand, where plant and equipment are already substantially utilized, the average variable and also marginal cost of "additional" traffic may well be increasing. It

may reasonably be inferred from the position taken by the railroads either that they are not sufficiently aware of the implications of the marginal cost concept, or that they are confident that marginal costs are not greater than average variable costs, or that in a keenly competitive situation they are willing to suffer, temporarily at least, the reductions in net revenue (that is, revenue above average variable cost) resulting from rates below marginal cost. The Commission clearly has not been aware of the potential consequences of fixing such rates, because it has never given consideration to marginal cost behavior.

Marginal cost behavior seems likewise to be largely ignored in the cost studies of the Commission's Bureau of Transport Economics and Statistics. The subject is approached obliquely in "Rail Freight Service Costs in the Various Rate Territories of the United States."[4] There, under the topical heading, "Effect of small increments of traffic," it is said:

> Question may arise as to the out-of-pocket cost for handling a single additional carload. — The effect of one added unit of traffic is no different from that of any other added unit. For example, if the receipt of ten added tons or less carload traffic occasions the employment of one added station platform trucker, one cannot place any more responsibility for this increased expense upon the tenth ton than upon the first ton. Each ton contributes equally in increasing the work up to that point which necessitates the additional employee. — The responsibility for the change in the expenses must be shared equally by each increment of traffic that contributed to the increase or decrease in the expenses.[5]

This appears to be an argument in favor of basing rates on average variable cost, rather than marginal cost, on the ground that "the responsibility for the change in the expenses must be shared equally by each increment of traffic."[6] This reasoning is fallacious. Under a rising average variable cost curve, a rate based on

4. Published as Senate Document No. 63 (1943). Not having been formally adopted by the Commission, it does not necessarily represent the latter's views.

5. Op. Cit., p. 48.

6. It is arguable that the quotation may be interpreted as meaning that the same rate based on marginal cost should be applied to all the traffic. Everything said both immediately preceding and following the excerpt, however, clearly indicates that average variable cost is meant. Furthermore, Senate Document No. 63 (p. 1) defines out-of-pocket costs as synonymous with variable cost. It is there stated: "These costs which can be directly assigned to the traffic costs, the assignable costs, the direct costs, or the variable costs."

variable cost would be less than marginal cost, and the effect of such a rate would be to reduce net revenue. The fact that "one cannot place any more responsibility for this increased expense upon the tenth ton than upon the first ton" furnishes no support for the proposition that the burden should be distributed on the basis of average variable cost. The burden should be shared equally by imposing a rate equal to marginal cost, and only such a rate is economically defensible in the circumstances in which the Commission has followed the "out-of-pocket" principle.

V. Conclusion

In examining the cases it should be borne in mind that different members of the Commission have written the opinions, and the decisions have been handed down at different times. In some cases, moreover, the decisions have been made by the full Commission, in other cases by Divisions of the Commission. The thread of consistency must be traced through many minds.

Despite its ambiguous terminology, the Commission has consistently used the term "out-of-pocket" expense to denote the average variable cost of additional traffic. When the volume of additional traffic approximates a "small additional unit," out-of-pocket cost tends to equal marginal cost; but the average variable cost of additional traffic in excess of such a unit cannot be identified with marginal cost. In all of the cases in which the Commission has fixed rates on the basis of out-of-pocket cost, the traffic involved has clearly exceeded the marginal unit as thus defined. The Commission has failed to note the deviation of the average variable cost of additional traffic from marginal cost. As a result, the Commission had failed to realize that where marginal costs are rising the carrier is not "advantaged" by that portion of additional traffic handled at a rate below marginal cost.

In recent cases, it is true, the Commission has shown reluctance in following the out-of-pocket principle, when rates on a large proportion of a carrier's traffic are in issue. This, however, has not been due to recognition by the Commission that the average variable cost of a large volume of traffic usually differs from the cost of a marginal unit.[7] The Commission has never questioned its earlier reasoning that where a higher rate cannot be secured the carrier is "advantaged" by a rate exceeding out-of-

7. Pp. 555-556, above.

pocket cost even slightly, regardless of the amount of the additional traffic.

The fact is that the Commission has shown no awareness of marginal cost as such, and has, therefore, failed to distinguish between marginal cost and average variable cost in any sense. It is submitted that the marginal cost concept is not only of basic importance for theoretical analysis, but also is one of those instruments in the economist's "box of tools" that may be of practical usefulness. It is accordingly suggested that the behavior of marginal cost of rail carriers as well as of other forms of transport should be explored by the Commission with a view to determining what application can be made of the marginal concept in fixing freight rates.

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GASOLINE RATIONING IN THE UNITED STATES, I[1]

SUMMARY

The introduction of rationing: the Eastern gasoline shortage, 561; nation-wide rationing, 564. — The separation of District I, 567. — The "pleasure driving" ban, 569. — Other steps to reduce consumption, 570. — The non-recoverable "B" and "C" cut, 572. — End of the "pleasure driving" ban, 572. — Jurisdictional dispute between OPA and PAW, 573. — Spread of the gasoline shortage: relaxation of the program, 576; the shortage spreads to Districts II and III, 577; the shortage spreads to Districts IV and V, 579; the program settles down, 580. — The local board system, 581.

THE INTRODUCTION OF RATIONING

The Eastern Gasoline Shortage. The essential factor which explains the early effect of the war upon the petroleum supply of the Atlantic Seaboard was the method by which this area secured its supply. In 1941, the seventeen States on the East Coast — District I, as the area was designated by the Petroleum Administration for War[2] — consumed over 1,500,000 barrels of petroleum and petroleum products daily, 40 per cent of total consumption in the United States. Nearly 90 per cent of this was brought into the area in ocean-going tankers, most of which loaded in the Gulf of Mexico and made deliveries to the great ports along the Atlantic Seaboard. A small amount — approximately eight per cent of the total movement into District I — was brought overland from the producing region in railway tankcars, pipelines, and barges. Finally, an insignificant amount, approximately 80,000 barrels per day (b/d), was locally produced.

Supply by ocean tanker was obviously extremely vulnerable to the impact of war. Diversion of tankers to the national defense

1. This study is based in part on materials prepared by the authors for use in a study projected by the History Branch of the Office of Price Administration. The opinions expressed are the authors' own, however, and are not necessarily shared by the OPA.

2. The Petroleum Administration for War was at first called the Office of Petroleum Coördinator. District I comprised substantially the same area as the Bureau of Mines' Eastern District, except that the latter excluded all of West Virginia and the western portions of New York and Pennsylvania. The gasoline shortage area which, with minor differences, was the area in which gasoline was originally rationed, excluded a part of Western Florida, West Virginia (west of the panhandle), and from time to time other small areas.

program and sinking by German submarines brought about a rapid fall of petroleum stocks in the East. To counteract this development, efforts were made to increase the use of the railway tankcar and the pipeline. These were more expensive methods of transporting oil (8.3 mills per ton mile by tankcar and 3.2 mills by pipeline, compared with 1.25 mills by tanker), but they were most susceptible of prompt utilization. During the week ended December 13, 1941, only 60,000 b/d of petroleum were brought into District I by rail. By March 28, 1942, these shipments exceeded 500,000 b/d. Only 54,000 b/d of petroleum and products were moved into the East by pipeline during 1941, but a reorganization of pipeline movements was undertaken to increase this flow, and in addition new construction was undertaken.

These measures were not sufficient to compensate for the loss of tankers, and new steps to reduce consumption were clearly called for. The first measures aimed at restriction of civilian consumption were the so-called limitation orders. These affected only gasoline, both because gasoline was by all odds the most important single product in terms of volume (40 per cent of total consumption in 1941) and because civilian consumption of it could most obviously be cut without injury to war production or the civilian economy. On March 19, 1942, the War Production Board issued a limitation order which reduced the delivery of gasoline to retail dealers in seventeen Eastern States to 80 per cent of 1941 deliveries. By subsequent orders, deliveries were reduced to 66⅔ per cent and then to 50 per cent of 1941.

The limitation order was, of course, a relatively crude device for restricting consumption. It placed upon gasoline dealers the difficult and onerous task of deciding which of their customers should be cut. Inevitably, most dealers met it by taking care of their old customers first, and by limiting many customers to an arbitrary two or three gallons per delivery. The relative importance of customers' needs could seldom be taken into consideration. Car owners without a regular source of supply often found themselves with dry tanks. Those with leisure to shop around could secure gasoline by wasteful driving; those unable to shop, even though they might be essential workers, might go without. The fact that the basis for the dealer allocation was the 1941 deliveries also constituted a serious defect. It meant that the amount of gasoline which a dealer secured reflected an historical position rather than

current needs. Gasoline stations in areas of growing industrial activity were short, whereas those in areas of decreased demands were in a comfortable position. The supply, therefore, was not only limited but also poorly distributed in terms of availability to the more essential users.[3]

In the meantime, plans for a gasoline rationing program had been going forward. On January 24, 1942, the War Production Board, by its Directive No. 1, had delegated to the Office of Price Administration and Civilian Supply the authority to ration gasoline in OPC District I. By the first week in March, an organization was being gathered together and planning was under way looking forward to the start of a coupon rationing system on July 1,[4] when a sudden increase in sinkings toward the end of April stopped virtually all tanker shipments to the East. WPB decided that emergency action to limit consumption was necessary, and the gasoline rationing branch of OPA therefore framed and put into operation an emergency plan two weeks from the day it was ordered.

The interim card plan, as this emergency program was known, was admittedly a makeshift. It attempted to regulate the consumption of gasoline only in private passenger cars by issuing cards which were to be punched by the dealer when he sold gasoline to the ration holder. Since this punching operation did not leave the dealer with any evidence of the transaction, and since replenishment was not directly based upon consumer transactions, the dealer in many cases neglected to punch his customer's card.[5]

Meanwhile, work on a more effective rationing plan had been pushed ahead. Formulation of the plan was, of course, only a part

3. This historical basis could not, moreover, be rigidly observed. The Office of Petroleum Coördination (later the PAW), in whose hands administration of the limitation order was placed, permitted adjustments to dealers to be made upon showing of evidence of need. As a result, the offices of the OPC found themselves flooded with requests for adjustments which were impossible to evaluate with fairness. Unable to investigate the flood of requests, OPC made its judgments upon the basis of paper claims, with most attention to those who pressed most vigorously.

4. The intention was to test the program in Maine for a month or six weeks preceding its installation throughout District I.

5. Despite its makeshift character, the card rationing plan is estimated to have reduced passenger car consumption of gasoline 140,000 b/d over its life of 10 weeks from May 15 to July 22, 1942. In the early weeks, the plan operated much more effectively than it did after dealers and consumers became conscious of the many loopholes.

of the task. Millions of coupons and forms had to be printed and distributed; a national staff had to be trained in the details of the plan and to pass on this knowledge to thousands of members of local Boards; the industry similarly had to be instructed in the important part it had to play. These innumerable details were obstacles to speedy action, and when, on July 22, the plan was finally launched in the seventeen Eastern States, a great many of the details had not been ironed out. Some Boards were inadequately instructed, some were short of forms and coupons. The industry did not appreciate its responsibility in maintaining a flowback of ration evidences, and the public did not have time to absorb the instructions doled out to it by press and radio. In the interest of speed, a great deal of confusion was tolerated which in any other circumstances would have been intolerable.

No separate description of Ration Order 5A — the plan made effective in the East — will be given here, because in its essentials this plan became Ration Order 5C, applicable on a nation-wide basis on December 1, 1942.

Nation-Wide Rationing. Meanwhile, a violent controversy had been going on concerning the need for nation-wide gasoline rationing. On January 5, 1942, only four weeks after Pearl Harbor, a strict system of tire rationing had been instituted, and this system, together with the voluntary reduction in driving because of the awareness that tires and cars were in short supply, had brought the mileage per passenger car down from a prewar figure of over 9000 to approximately 6700 miles per year. Was this reduction enough? If further reduction in the interest of rubber conservation was necessary, how should it be achieved? Would reduction of speed limits to thirty-five miles per hour, even stricter tire rationing, patriotic appeal to drivers, be adequate? Or was it necessary to use gasoline rationing as a supplement?

In retrospect, the bitterness with which these questions were debated seems incredible. The inspiration for the debate was not simply the high esteem in which the American motorist held his car. A babel of voices arose which left citizens unclear as to what was necessary. Some oil companies feared the effect of gasoline rationing on their business, automobile associations feared a loss in clientele, and State gasoline tax officials feared a loss in revenue. All of these groups converged on Congress, and this body epitomized the public confusion. Hearings were held, committees were

appointed, hasty reports were prepared — and in all of this no authoritative voice prevailed.

One instance only will be presented. In July, 1942, a meeting of 137 members of the House of Representatives appointed a committee to report on the question of nation-wide gasoline rationing. The committee stated[6] its "firm conviction" that "any shortage of rubber should be met by rationing rubber itself rather than by the rationing of gasoline"; that "there is now on hand in this country, or will be manufactured or obtained from other sources, a sufficient supply of rubber to meet the needs of the war effort and essential civilian use, if proper steps are taken to prevent waste"; that "gasoline rationing, except in areas where transportation facilities were temporarily inadequate, is unnecessary, unwise, and economically unsound." According to the committee, "gas rationing, where there is an adequate supply of gasoline, carries a stigma of unwarranted use of power."

The purpose of the Special Inquiry Committee — Bernard Baruch, Dr. J. B. Conant, Dr. Karl T. Compton — appointed by the President on August 5 was to resolve the current confusion, and this the committee did in emphatic and unmistakable language. In a report presented on September 10, 1942, the Committee stated: "Gas rationing is the only way of saving rubber. Every way of avoiding this method was explored, but it was found to be inescapable. This must be kept in mind: The limitation in the use of gasoline is not due to shortage of that commodity — it is wholly a measure of rubber saving. That is why the restriction is to be nation-wide. Any localized measure would be unfair and futile." The goal at which a system of gasoline rationing should aim was an average car mileage of 5000 a year — a reduction of about 25 per cent over the current mileage.[7] Fifteen days after the report of the Baruch committee, the OPA received from the War Production Board (the Rubber Director's office) a directive to ration gasoline on a nation-wide basis. The new rationing plan,

6. U. S. 77th Congress, 2d Session, House, Hearings before a subcommittee of the Committee on Interstate and Foreign Commerce (Washington, 1942), pp. 353, 354. The members of this committee were: Mr. Kleberg of Texas, Mr. Scrugham of Nevada, Mr. Lea, Mr. Holmes, Mr. Houston, Mr. Hope, Mr. Brown of Ohio, and Mr. Fogarty of Rhode Island.

7. The important recommendations of this committee concerning the synthetic rubber program will not be recorded here, except to note that a "Rubber Administrator" was to be appointed with "full and complete authority in all matters relating to rubber."

while shifting its purpose from conservation of gasoline to conservation of rubber, was, in essentials, very similar to that already put in operation in District I.

Nation-wide gasoline rationing was put into effect on December 1, and in many parts of the country the same confusion which had occurred more than four months earlier in District I was repeated. In spite of the emphatic language of the Baruch report, opposition had continued. The most serious confusion arose, however, with respect to rations for commercial vehicles. In District I, such rations — "S" coupons — had been issued by the local Boards of the OPA, and a marked overissuance had occurred. The Office of Defense Transportation was the governmental agency which had direct responsibility for efficient operation of commercial vehicles, and which had, moreover, a technical knowledge of their operations.[8] It was therefore agreed between ODT and OPA that, when nation-wide rationing was put into effect, the former would assume the job of determining the amount of gasoline to be issued to commercial vehicles and of certifying this to the local Boards, which would actually issue the coupons. The certification was to be by means of a Certificate of War Necessity, which each operator would receive from ODT. Instead of "S" coupons, new "T" coupons were to be issued (and in District I these coupons were to replace the "S" coupons).

No detailed account of how the ODT went about this job will be presented here. Suffice to say that it required every commercial operator, including over a million farmers who owned trucks, to fill out a complicated form in order to provide information which would make possible accurate issuance and the elimination of inefficient operations. The Maloney committee has described the results as follows: "The plan quickly collapsed. Millions of small truck operators, and particularly farmers, either did not understand the form or did not have the requested information concerning the details of their operations. As a result, a large proportion of the forms were returned to the Office of Defense Transportation incompletely made out."[9] Analysis of the form, in any case, proved to be much more difficult than ODT had anticipated. Many

8. The authority of the ODT, in fact, included the responsibility for the conservation of all rubber-borne transportation, and at this time the jurisdictional spheres of the ODT and the OPA were ill-defined.

9. Gasoline and Fuel Oil Shortages, U. S. 78th Congress, 2d Session, Senate Report No. 59 (Washington, 1943), p. 15.

Certificates of War Necessity were issued erroneously, many were delayed, and, as a result, a terrific protest arose. In desperation the ODT agreed that, temporarily, the local Boards should be given emergency powers to make issuance without presentation of a Certificate of War Necessity, if the applicant had applied for but had not received one, and also to correct obvious clerical errors on the Certificates. The temporary ration covered the period until February 1.

The results were far from happy. The local Boards were the recipients of unwarranted abuse, because the public persistently ignored the fact that the Boards were meant only to be intermediaries, and concentrated upon the fact that they actually doled out the coupons. The Boards were, moreover, loaded with their new and unwanted duties at a time when their regular work was at a peak. The confusion which arose left a legacy of bad feeling which lasted for many months.

The Separation of District I

The plan for a system of gasoline rationing which would be identical over the whole of the nation never came to fruition. Instead, District I split off from the rest of the country, because the supply of gasoline brought to it proved inadequate to support the level of consumption allowed elsewhere. To be sure, a remarkable change-over in the system of supply had been achieved. The amount of gasoline brought in by tanker had shrunk from 347,000 b/d in 1941 to 66,000 b/d in 1942, while that brought by tankcar had risen from 5,000 b/d to 123,000 b/d, and that by pipeline and barge, from 24,000 b/d to 92,000 b/d. But with the winter season the turn-around of tankcars was certain to lengthen, and nothing could safely be counted on in the way of delivery by tanker. Here the military had first call and, as it turned out, they felt impelled to use tankers, not to carry gasoline into District I, but to lift from Eastern ports gasoline which had already been delivered. The imperative necessity of these military withdrawals in order to supply the North African campaign cannot be questioned. The lack of coördination in the operations of the civilian and military authorities was, however, unfortunate.

In November events rapidly moved to a crisis. Gasoline inventories went down, and it proved impossible to distribute these inventories evenly over a large area. Dry spots developed, espe-

cially in metropolitan centers; essential drivers could not secure gasoline, and the operation of vital war plants was threatened. What was to be done to reduce consumption? The technique which had been uppermost in the minds of the framers of the gasoline rationing program was a cut in the value of the coupons. Accordingly the "A" coupon,[1] which contained non-occupational mileage, was cut from four to three gallons on November 22, the date on which a new series of "A" coupons became valid. This step was not received with favor by the public or by the local Boards which administered rationing. The public had not been prepared for the action; the local Boards were busy with new duties — especially fuel oil rationing. Much misunderstanding of the effect of the cut was manifest. Because some of the "A" mileage was eligible for restoration, statements were made to the effect that no reduction in consumption would result. Some people argued that, in any case, the "A" coupon should not have been cut; and that the "A" ration holder was typically a patriotic citizen who got along with the least mileage, compared with drivers who held supplemental "B" and "C" rations.

The saving accomplished by the "A" cut amounted to approximately 20,000 b/d, but it was not enough. On the week-end of December 18, all sales of gasoline in District I were suspended, and it was announced that when, on December 22, the freeze was lifted, "B" and "C" coupons would be reduced in value from four to three gallons. This decision was reached partly because of the unfavorable reaction to the "A" cut, and partly because of the knowledge that the supplemental ration had been loosely issued. The amendment by which this cut was made declared, however, that an applicant, upon proof of need for the occupational mileage which he had lost, could secure restoration. The cut, therefore, affected only those supplemental ration holders who had been overissued and those who, through inertia or voluntary sacrifice, did not request restoration.

Why was the right to secure restoration permitted? Because otherwise the ration holder who had just the occupational mileage to which he was entitled would be unfairly treated. It follows, of course, that if all ration holders were in this condition — if all had been issued strictly in accordance with the Regulations — this sort of cut would make no saving. A cut with the privilege of

1. See Part II of this study for a description of these "books."

restoration simply provided and forced a new screening of applications by the local Boards in an effort to squeeze out the water. It follows also that, if a particular local Board had done a perfect job in the original issuance, the cut saddled it with a burdensome job of adjustment of mileage which was completely useless. Since many Boards felt that they had done a good, if not a perfect, job of issuance, resentment against use of the technique of coupon cuts was widespread. This was freely passed on to the OPA officials in the District and Regional Offices, and it had a bearing upon the next restrictive action which was taken.

The severance of District I from the rest of the country with respect to gasoline rationing was formally recognized when, on December 18, PAW assigned to OPA a quota within which consumption was to be held. The area which this quota was to serve was designated the "Gasoline Shortage Area," and comprised the seventeen Eastern States[2] and the District of Columbia, plus Sullivan County, Tennessee.[3] The quota of 365,000 b/d for the remaining days in December represented a cut of 40 per cent over prewar consumption in this area. For January the quota was set at 322,000 b/d. Faced with the need for new restrictive action, OPA was hesitant about further use of the technique of coupon cutting.

A new technique for curtailing consumption was therefore invented — forbidding unnecessary driving — the so-called "pleasure driving" ban. What was unnecessary driving? Obviously not occupational driving, and obviously not certain kinds of family necessity driving, such as shopping, going to church or to see the doctor. Equally obvious, driving to the movies, to bridge parties, etc., was unnecessary. But in between the extremes lay a wide range of personal activities which, in this respect, were neither black nor white, and very promptly issues were raised by inquiring members of the public which could only be answered arbitrarily or not at all. The OPA at Washington did its best to provide broad interpretations of the Regulations, while asserting that in many cases it was prepared to let the conscience of the individual be the guide. Administration of the ban was a matter for the local authorities, violators being brought before the local Board for

2. Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia.

3. The City of Bristol, Virginia, lies across the Virginia-Tennessee line. This clause was designed to bring all of it into the Gasoline Shortage Area.

judgment. Inevitably, with an offense which was not clearly definable and with enforcement primarily a matter for local initiative, the results were not always fortunate. The conscientious citizen who severely restricted his driving was outraged when he observed (or had reported to him) that some of his neighbors were much less conscientious. Irritation at the ban accumulated, and with it pressure for repeal. The Honorable Prentiss Brown, Administrator of OPA, announced his dislike of the ban, and on March 3 he declared that observance would be voluntary. The statistics of consumption record that, very promptly, a sharp increase in driving took place. Despite this, the ban was formally lifted on March 22.

The "pleasure driving" ban did effectively reduce consumption during January and February. During these months consumption was held within quota, and this was a substantial achievement. Since non-highway and commercial vehicle consumption were not affected, it meant a reduction of approximately 60 per cent in passenger car consumption over 1941. But in March this position could not be held, both because of the normal seasonal increase in agricultural use of gasoline and because the "pleasure driving" ban had begun to lose its force. On March 22 the "A" book was therefore cut to 90 miles per month by a method which was new. The "A" coupon was left at a three-gallon value, but the time period of each series of numbered coupons was extended from two to four months. *All* "A" ration holders thereby had 90 miles per month for non-occupational driving. The driver with occupational mileage was permitted to apply for restoration, which might be granted by issuance to him of "B" or "C" coupons.

Other Steps to Reduce Consumption. Meanwhile, the Washington office, in coöperation with the Regional and District offices of OPA, had inaugurated an extended campaign of education of the local Boards. The aim was to explain to the Boards the unique position of District I with respect to gasoline rationing, and to bring the level of operation of all the Boards closer to the level achieved by the best Boards. Undoubtedly, this campaign had an effect. But it proved impossible to live within the monthly quotas of 333,000 b/d for April, and of 356,000 for May, which PAW allocated to District I. In the spring of the year, consumption of gasoline increases seasonally for commercial driving and for non-highway purposes, as well as for passenger cars. The system of

rationing through local Boards was not tight enough to hold consumption down to quota levels. Early in May a crisis similar to that of the winter occurred, with dry stations and the threat of serious stoppages of essential transportation. A so-called "Restricted Area" was marked out, comprising the seaboard States north of North Carolina. The reason was that, in the opinion of the Petroleum Administration for War — and all matters of the boundaries of areas were within its jurisdiction — the supply situation in the northern portion of District I warranted, while that in the southern portion did not warrant, extra effort to reduce consumption.

On May 14, OPA received its quota for June and found it still at the May level of 356,000 b/d. Further consumption cuts were clearly called for, even at the expense of important uses of gasoline. On May 20, the "pleasure driving" ban was re-invoked in the Restricted Area. On May 22, another technique to reduce consumption was used, also applicable only in the Restricted Area. It had been a matter of common knowledge that Transport rations had been seriously overissued. The evil of this was not so much that the holders consumed more gasoline directly, but that the overage tended to pass into the hands of gasoline dealers, who thereby were able to sell black market gasoline to passenger cars. The decision was finally taken to cut the Transport ration.[4]

This step was extremely difficult to achieve. Simply to cut the value of the "T" coupons was not workable, the principal reason being that all larger holders of Transport rations had the right to secure all or part of their issuance in the form of bulk coupons of a value of 100 gallons, which permitted the delivery of gasoline in bulk into storage facilities on the premises of the holder, for example, a trucking company. Identical bulk coupons were issued to the large *non-highway* applicant. If, therefore, a cut were made in "T" coupons alone, the trucker who had secured his ration in the form of bulk coupons would not be touched. If a cut were made in bulk coupons as well, the holder of a non-highway ration in this form would also be affected; and if he were affected, logic required that a parallel cut be made in "E" and "R" non-highway coupons.

Recourse was had, therefore, to the device of time-extension. On May 22, it was announced that second quarter Transport

4. Amendment 54, effective June 14, 1943.

rations, due to expire on June 30, would have to last until July 25. This amounted to a cut of 40 per cent in that portion of the ration remaining on May 22. The episode is worth noting as the one time in the history of gasoline rationing when the cut technique was applied other than to the rations of passenger cars.

The Non-Recoverable "B" and "C" Cut. On May 29, just three days before the 356,000 b/d quota was to become effective for June, PAW announced a 30,000-barrel reduction, bringing the allocation down to 326,000 b/d. This action was vigorously protested by OPA, ODT and OCR, but to no avail, and on June 2 the value of the "B" and "C" coupons was reduced from three to two and one-half gallons in the Restricted Area. This cut was, moreover, unique in that it was not recoverable — i.e. the "B" or "C" ration holder did not have the right to apply to his local Board for restoration of the mileage which he had lost.

The difficulties of holding to the decision were great. Some individuals, it appeared, had been rationed with meticulous precision, and were therefore sure to be left without enough mileage to get to work or to carry on their occupations. The most serious pressure came from so-called transportation committees. In the early days of the rationing program, committees had been authorized for industrial establishments employing 100 or more persons, which were to certify the applications of their employees to the local Boards. The theory was that the transportation committee would have, or could secure, more accurate information concerning the mileage needs of the workers, could enforce car-sharing, and could expedite the receipt of rations.

In the summer of 1943, the committees which had been strict could make a case against the non-recoverable cut. After they had tailored mileage with care and insisted upon car sharing, denial of the necessary ration might mean that their workers could not get to work. The National Office of the OPA decided that the "good" committees had an irresistible case, and an amendment to the Regulations was passed which permitted restoration to those plants which had a superior car-sharing performance.[5]

The End of the "Pleasure Driving" Ban. Meanwhile, the

5. If a war plant could demonstrate to representatives of the appropriate OPA District Office that it had an average car occupancy of three and one-half persons or better, this was regarded as prima-facie evidence that a claim for restoration made by it was genuine. Mileage was not restored, however, until all other alternatives had been exhausted.

"pleasure driving" ban had been maintained with the greatest difficulty. The East had become very restive in view of the marked liberalization of gasoline rationing which had been permitted by this time in the rest of the nation. A good many individuals and a good many members of Congress refused to recognize the justification for the special restrictions applied to District I. In the summer season, moreover, many individuals had been accustomed to use their cars for purposes which fell within the definition of pleasure driving. Pressure for relaxation was most vigorously applied with respect to vacation driving. A great many variations of this theme were advanced, but the main plea was that the individual's investment in his summer home was being jeopardized. A block of Eastern Congressmen, headed by Representative Fred Hartley of New Jersey, held, through June, a series of hearings which sought to determine the reasons for the so-called "discrimination" against the Eastern driver. The Administrator, Mr. Brown, felt obliged to bow to this pressure (and also because of impending Congressional action affecting the life of OPA), and ordered an amendment permitting one round-trip to a vacation resort.[6] This meant that the "pleasure driving" ban was at an end. The ban depended to a very large extent upon public coöperation, and this now evaporated rapidly. On September 1, this was recognized by formal lifting of the ban.

Jurisdictional Dispute Between OPA and PAW. Meanwhile, OPA and PAW had been negotiating to settle their jurisdictional difficulties. The differences between the two agencies were deep seated, and stemmed from more than an inability to agree on the amount of gasoline necessary to support essential transportation in District I. The whole matter of petroleum distribution was at issue, and the niggers in the woodpile, in OPA's view, were PAW's Directive 59 and PAO I.[7]

The flowback system, which was the backbone of gasoline rationing, assumed that even as consumers holding coupons might buy gasoline wherever they wished, so also should the number of

6. Amendment No. 65, effective July 15.

7. The conflict between flowback and the PAW quotas was, however, only the front for a conflict between OPA and PAW over the rationing of petroleum products. PAW had originally opposed this rationing. When such a position became untenable, it opposed the rationing system as run by OPA. Behind PAW were the major oil companies, who were friendly to PAW and unfriendly to OPA.

coupons held by a dealer or intermediate supplier govern the amount of his supply. The gasoline rationing program was believed to be sufficiently flexible so that the coupon flowback would accomplish an orderly distribution of gasoline, not only to ultimate consumers, but to dealers and their suppliers as well. Given a reasonable balance between demand (coupons) and supply, gasoline should flow downstream as the coupon flow indicated. To that end, anti-discrimination clauses were inserted in the Gasoline Rationing Regulations,[8] and OPA held to the theory that once the product had been brought into an area, its wholesale, as well as retail, distribution should be governed by coupon flow and nothing else.

PAW, on the other hand, had early in its life issued Directive 59,[9] which governed the distribution of products in District I among primary suppliers. In order to get the job done of bringing oil into the East as quickly as possible, pooling of transportation and storage facilities by the importing companies had been employed. To avoid any upset in the competitive structure of the industry in District I because of these abnormal conditions, Directive 59 assigned to each primary (importing) company a quota in terms of total imports based upon its 1941 sales position. In other words, each company received in any month that per cent of its supply in the same month of 1941 which the total supply for the area represented of the total supply in 1941.

If these importing companies had distributed gasoline downward to the intermediates and dealers on the basis of coupon flowback, this quota system at the top might have passed unnoticed and unchallenged. The hitch, however, was that primary suppliers, faced with the problem of distributing a reduced supply, turned to the same technique and allowed to each of their customers (secondary companies) the same percentage of their 1941 sales as they themselves received. Secondary suppliers felt induced to act similarly. This put a squeeze upon the dealer in particular, to whom OPA's anti-discrimination clause principally applied. He had to sell to all comers who had valid coupons to offer; he could not always get these coupons honored if they exceeded his quota.[1]

8. Section 1394.8169.

9. Issued September 25, 1942.

1. During December, 1942, and January, 1943, dry spots throughout the Northeast had caused serious trouble, and OPA then contended, though not

The essential conflict between flowback and PAW's industry quotas was the most important of the problems brought forward for negotiation in the spring of 1943. It was not, however, the only one. OPA was struggling to secure some assurance that quotas would be announced sufficiently in advance to permit coördinated and orderly action to be taken when necessary. And OPA was very anxious that PAW restrain its impulses to issue optimistic supply statements with one hand and cut civilian quotas with the other.

The quarrel finally came before WPB in June, and on July 1 Mr. Donald Nelson announced the new arrangement. Its chief points were:

1. Responsibility for product distribution within the industry down to the retail level was to rest with PAW.

2. A Petroleum Requirements Committee, chairmaned by PAW, was established, comprising representatives of the various claimant agencies[2] plus one representative for OPA (which was not permitted the status of claimant agency).

3. OPA retained "primary responsibility for developing and executing petroleum rationing policies, plans, procedures and operations," subject to the advice of a Petroleum Rationing Policy Committee, consisting of representatives of OPA, ODT, WPB, WFA and PAW, with OPA as chairman.

4. Public information on petroleum was to clear through OWI, with PAW confining itself to supply matters, and OPA to rationing.

Except for ODT, all of the claimant agencies submitting claims to PAW for gasoline were quite disassociated from OPA, which ran the rationing program. War Food Administration and the Office of Civilian Requirements — the other civilian claimant agencies — lacked any satisfactory statistics of consumption. It was not even clear just what claims WFA and OCR were to make. Was WFA to claim for all agricultural uses? What was an agricultural use? When the farmer received coupons to run his saw-

very forcefully, that the historical basis of Directive 59 was at least partially to blame. On February 1, PAW, ostensibly recognizing this fact, issued an amended version of PAO 1, which based distribution below the primary distributors' level on the *1942* sales pattern. This amounted to formalizing the system which had grown up under Directive 59 — except for the switch to a 1942 base.

2. Army, Navy, Maritime Commission, BEW, OLLA, ODT, WFA, WPB, NHA, and PAW.

mill, or his lighting system, was this to be claimed for by WFA? This was what the Petroleum Requirements Committee decided — all non-highway gasoline used on the farm was to be the responsibility of WFA. Yet obviously not all gasoline-using sawmills or lighting systems were run by farmers, and therefore it seemed necessary for WFA and OCR to divide the totals between them. Statistically this was impossible, since the available data were extremely meagre. In fact, the first claims of those two agencies — prepared without an awareness of what was involved — were much below total non-highway consumption. At once there was bickering. The two claimant agencies willingly admitted the defects of their estimates and agreed to increase their claims.[3] But this PAW was reluctant to accept, on the ground that adequate facts to support the claims were not presented.

All of this bickering came to nothing. PAW embarrassed the claimant agencies and OPA, but it could not press this advantage. OPA could and did suggest that, if PAW insisted upon reduction of non-highway consumption to the inadequate quota given for non-highway purposes, this would mean a coupon cut which would strike at such essential users as farmers. In this futile argument WFA and OCR tended to line up with OPA, and in time the issue faded into the background without being resolved. The whole difficulty arose out of a jurisdictional division of authority that was quite impractical and unrelated to the functioning of the rationing system. The division was made workable by being neglected, rather than by being enforced.

Spread of the Gasoline Shortage

Relaxation of the Program. The gasoline rationing program in the rest of the country, despite the reluctance with which it had been accepted in many areas, managed in its early months to reduce driving to the goal set by the Baruch Report. It was not, however, to maintain this achievement. This portion of the program, since it was designed simply to save rubber, was in an important — although ill-defined — measure subject to the authority of the Office of the Rubber Director, Mr. William Jeffers. It was his opinion that the program could and should be relaxed outside of District I, and three amendments were passed in the winter and spring of 1943 which stemmed from this opinion. The first, effective

3. OCR first made a claim for 2,000 b/d and then raised this to 43,500 b/d.

January 8, allowed the issuance of occupational mileage up to 8,000 miles per year, to certain "essential" salesmen, who had up to this time been held generally to the "B" ceiling of 5,640 miles (470 miles per month). In February another amendment permitted mileage in excess of the "B" ceiling to be issued for home-to-work driving, regardless of the occupational category of the applicant.[4] On May 1 another amendment lifted the "B" ceiling from 470 to 720 miles per month for all in-course-of-work driving. These amendments led both directly and indirectly to a larger issuance, and the indirect effect was the more important. Members of the public who had been unconvinced of the necessity for gasoline rationing felt that their opinions were confirmed. Local Boards, which had been indoctrinated to do a difficult job, felt betrayed in their zeal. And when categories permitting extra privileges are opened up, the number of applicants who qualify always grows beyond expectation. So it was in this case. Many salesmen promptly became "essential," i.e. technicians, and the task of those local Boards wanting to hold the line was greatly complicated.

In the best of circumstances a differential system of rationing which attempts fairly precise measurement of individual needs (as contrasted with a system which simply counts each person as one), tends to slacken with the passage of time. When errors are made in the form of under-issuance, the applicants naturally demand and receive rectification. When errors are made in the form of over-issuance, these are in general detected only by closer Board scrutiny, and this is a laborious and difficult process. For the quarter ended June 30, 1943, the figures on the following page show how divergent the gasoline rationing system in District I and in the rest of the country had become.

The Shortage Spreads to Districts II and III. In the third quarter of 1943 gasoline rationing was to undergo another transformation. The gasoline shortage, which had from the outset overridden the rubber shortage in District I, became the determining factor in all the rest of the country, except the Pacific Coast. It might seem that this would serve to bring about a merging of the two schemes of rationing, either by a tightening in the Midwest or

4. The argument advanced was that some non-preferred workers in some localities were unable to secure living quarters close enough to their places of work to enable them to travel back and forth on a "B" ration.

Average Annual Mileage Per Passenger Car
Under Gasoline Rationing Program
as of June 30, 1943

District	Mileage
I (approximately the 17 Eastern States)	4800
II (approximately the Mid-Western and Southern States east	5250
III of the Rockies)	6550
IV (the States west of the Rockies)	5150
V (the States west of the Rockies)	5500
United States	5250
Baruch Report	5000

by a relaxation in District I. But this merger was slow in taking place. Gasoline rationing was tightened in the area west of District I and east of the Rockies (i.e., Districts II and III), although not to the degree that prevailed in District I. On the Pacific Coast, however, no cuts were made until October. The PAW declared that no purpose would be served by altering the system of rationing there, since gasoline from this area could not, by the existing transportation system, be brought over the mountains in appreciable amounts.

On August 13, 1943, PAW, for the first time, assigned quotas of gasoline for its Districts II and III of 482,000 b/d and 141,000 b/d, respectively. Since gasoline consumption in Districts II and III was running well over quota, on August 16 the "A," "B" and "C" coupons were cut from four to three gallons.[5] On October 1 a further cut was made to two gallons[6] and at the same time the "B" ceiling for in-course-of-work driving was reduced from 720 miles per month to 480, thus knocking out one of the Jeffers amendments.[7] This whole program of cuts had been the subject of intense

5. An earlier and minor change was that the "B" book, on July 24, 1943, was shifted over from issuance on a time-tailored basis to a three-month coupon-tailored basis in Districts II, III, IV and V. In District I a four-month time-tailored basis had been introduced on March 22, 1943. This was shifted to a three-month basis on October 1, 1943.

6. In District I at the same time the "B" and "C" coupons were cut from two and one-half to two gallons, and the non-recoverable feature, which had been in effect since June 2, was dropped.

7. In District I the "B" ceiling was changed from 360 to 320 miles per month. So far as the "restricted" area is concerned, this was a liberalization, since the cut from three to two and one-half gallons on June 2 had not been restorable. In the remainder of District I, however, the shifting of ceilings represented a slight reduction. Obviously ceiling equalization was not accomplished by the amendment.

This same amendment of October 1 made another move in the direction

debate, involving not only OPA but the Office of War Mobilization as represented by Mr. James F. Byrnes. Gasoline rationing had become so hot an issue that it could not be left to technicians. And the actual program was not, in its time sequence, what the technicians desired. They argued that, as a first step, the "A" ration should be cut to two gallons per month and made entirely non-occupational. This was vetoed as unacceptable by the public. With the advantage of hindsight it seems that the bolder action favored by the technicians would have been wiser.

The Shortage Spreads to Districts IV and V. The restrictive measures outlined above had, it should be remembered, not applied west of the Rockies (Districts IV and V), since curtailment there could not, with existing means of transportation, add anything to supply in the areas to the east. However, in the fall of 1943 decreasing inventories and increased military demands on the Pacific Coast made cuts inevitable.[8] Therefore, on October 11, Mr. Ickes announced: "It is now unmistakably clear that to allow civilian consumption to continue at the present rate would, within a few months, force gasoline inventories down precipitately to the point where it would be increasingly difficult and then impossible to operate. I have therefore certified to the OPA, by allocation to the Office of Defense Transportation, the Office of Civilian Requirements, and the War Food Administration, that no more than 169,000 barrels of gasoline a day can be made available for civilian consumption in those areas." To meet this quota, which comprised 135,000 b/d for District V, and 34,000 for District IV,

of uniformity by providing for liberalization of the "A" book in District I. The "A" ration in District I had, since March 22, a value of 90 miles per month—all of it non-occupational—while in Districts II and III, the value of the "A" ration was 180 miles, of which 120 miles were non-occupational. It seemed impossible to justify this difference in non-occupational mileage, and the only feasible method of wiping it out was to raise the value of the "A" ration in District I to 120 miles per month. The liberalization was also justified because the quota assigned for District I was raised at this time from 344,000 to 379,000 b/d. The change was made without altering the coupon value (which was three gallons both in District I and Districts II and III) by shifting the time period of the "A-6" coupons. These coupons, which had become valid on July 22, were made to expire on November 8, rather than on November 22. The "A-8" and subsequent coupons in District I "A" book ran for three months.

8. Military demands jumped from 23 per cent of total consumption in 1942 to 43 per cent in the fall of 1943, even though foreign sources had been used to an ever greater degree. News release: OWI-2590, PAW-299; October 11, 1943.

"A," "B" and "C" coupons were reduced in value from four gallons to three, and the "in-course-of-work" ceiling of 720 miles per month was eliminated. These steps, of course, paralleled those taken earlier in Districts II and III.

The Program Settles Down. For the fourth quarter of 1943 and the first quarter of 1944, the various steps taken by OPA proved sufficient to keep consumption within quota. It was, however, obvious that with the value of the "B" and "C" coupons reduced to two gallons east of the Rockies, the technique of cuts would be difficult to employ. Since it was by no means clear that further cuts might not be necessary, steps were taken to issue new "B" and "C" coupons nation-wide at a five-gallon value beginning December 1.[9] The change had the further advantage that a decrease in the number of units of gasoline currency meant a saving in paper consumption, and a saving to the industry in handling.

In March, 1944, further restrictive action of a moderate sort was taken The quota of 1,257,000 b/d assigned by PAW for the second quarter seemed inadequate to take care of the anticipated seasonal increase in demand. As a result, the occupational mileage was removed entirely from the "A" ration in Districts II, III, IV and V, making it identical with the size of the "A" ration in District I[1] This step was, of course, desirable also because it made the basic ration uniform over the nation[2]

The frenzied last two quarters of 1943 were not to be repeated in 1944 Local Boards everywhere became aware, as had Boards in District I at an earlier date, of the seriousness of the gasoline shortage, and they processed applications with more care The new

9 This change in coupon values made it necessary for an arithmetic reason to alter the "B" ceiling In District I, it was changed from 320 to 325 miles per month, in Districts II, III, IV and V, from 480 to 460 miles per month

1 Amendment 113, effective March 22, 1944

2 The difference in the programs of cuts had created different "B" ceilings The ceiling was 325 miles per month in District I, 475 miles in Districts II, III and IV, and 400 miles in District V. At various times during 1944, consideration was given to moves toward further uniformity, but on each occasion the cost in terms of increased consumption, if the lower figures were raised, prevented action On the other hand, the step of securing uniformity by lowering the ceiling in Districts II, III, IV and V appeared likely to bring the charge that this part of the country was being penalized by OPA in pursuit of the aim of abstract equality. The new management of OPA was inclined to measure the need for action in terms of the audible expression of public opinion.

management of OPA did not, in any case, look with favor upon the use of such harsh techniques as coupon cuts, and it was inclined to feel that the level of consumption of gasoline had been sufficiently reduced. The new management was, moreover, satisfied that the public had become aware of the basis for and need of gasoline rationing, and its effort was to strengthen and reinforce this awareness by a stream of publicity which informed citizens of the facts of gasoline supply and demand. Crude oil production had about reached its limit, and war requirements for petroleum products were enormous — exceeding 1,000,000 b/d. More and more of each barrel of oil which once went into production of automotive gasoline was going into 100 octane aviation gasoline, toluene for TNT, butadiene for synthetic rubber, and distillates for heating purposes or for processing in catalytic cracking plants that were making petroleum war products. Facts of this sort were provided for public information through all available media, and with a careful regard for public psychology.

During the remainder of 1944 and into 1945, the gasoline rationing program settled down. Numerous refinements were made, some of them designed to correct known weaknesses in issuance, others to strengthen enforcement.

The Local Board System

The first extensive use of a system of local Boards to administer national legislation was during World War I. At that time the administration of selective service was, so far as possible, built upon local agencies. The system was unquestionably a success, and for understandable reasons. Not only was the aim of the draft simple and within the understanding of every citizen, but both registration and selection required knowledge of individual cases that could only be possessed by and secured from local sources. Small administrative units were essential. These served, moreover, as effective buffers between the citizens and the Federal government.

Use of the local Board system for rationing — especially for differential rationing — was by no means an identical proposition. The rationing plan for gasoline could not be simple, the task of administering it was gigantic, and the appreciation by citizens of its need was not widespread. Yet, when a rationing job had to be

done, the decision was taken — almost by default, and certainly without mature deliberation — to put it upon local Boards.

Early in the war emergency a system of State defense councils had been set up with a national coverage.[3] This was the original framework upon which the rationing system was hung. A job had to be done and done quickly. No budget was available from which to provide for an extensive staff of paid employees, and it was quite inconceivable that the very large amount which would have been required could be secured from Congress. The whole complicated mechanism of preparing a budget, justifying it to the Bureau of the Budget, presenting it to the Appropriations Committee and through the subsequent Congressional procedure, was unthinkable. Such steps would, indeed, have disclosed the inadequate knowledge which was possessed of what had to be done; but it would also have lost precious months. In the race against time, it seemed best to get started somehow and, by skillful improvisation, to solve problems as they emerged. The result was a local Board system. Patriotic citizens over the nation became the administrators of rationing. Rationing was to be run by groups of neighbors. Conformity to a national plan was, of course, contemplated, but so also was the exercise of a large amount of local discretion.

Even apart from the iron grip of circumstances, the local Board system offered clear advantages over a system run by professional paid officials. Local Board members were, in general, substantial citizens in their communities. It is doubtful that the type of paid help which would have been engaged, at relatively poor salaries, to do the job, would have compared favorably with the volunteers who were attracted by the motive of rendering a national service.

At the time when gasoline rationing was begun, many people were unconvinced of its necessity. They would have been strengthened in their resistance, had the plan been operated by people on the Federal payroll. The local Board members were a nucleus which served to educate their neighbors. Similarly, in administering the plan, decisions made by Board members were more palatable than decisions by professionals would have been, especially

3. The Director of Field Operations for OPA, Frank Bane, was the Secretary of the Council of State Governments. His slant was toward giving State governments a share in the war job, and the organizations indicated were the State Defense Councils. The Councils recruited the first voluntary rationing Boards.

because decisions had often to be taken concerning situations covered inadequately, or not at all, by the Regulations. Even when the general intent of the Regulations was clear, a diversity of situations arose in a country such as the United States. The Boards gave the system a flexibility which is very desirable in a federalism; they served as shock-absorbers against resentment, which otherwise would have been expressed against Washington; they gave relatively quick action on applications, even when the action did not conform with the Regulations.

As in all such cases, there are disadvantages which must be set against the advantages. Put in the most general terms, these disadvantages meant the failure to get uniform treatment over the nation of citizens in similar circumstances. The same caliber of citizens was not attracted to local Boards all over the nation, and incapable Boards would disobey, or misunderstand, or modify the Regulations. As members of the community, the Board members were susceptible to community pressure, and they therefore gave a flexibility to the Regulations which was inequitable. Board members tended to be unduly conscious of factors which seemed to them to be unique to their community. Each in the proper locale, Boards would regard the hills of Seattle, the cold and snow of northern Michigan, the heat of Texas, the great open spaces of plains states, as operating to increase the gasoline needs of their clientele. Innumerable factors operated to give Boards astigmatism when they passed upon hard cases.

In these circumstances, the Boards were often extremely recalcitrant to instructions from Washington. Conscious of their virtue as unpaid workers, they sometimes resented direction — or even advice. Immersed in a difficult day-by-day task, they failed to appreciate the national aspects of the plan. They were, for example, very allergic to preparation of statistical reports on issuance of gasoline. Sometimes the resistance sprang from the belief that the purpose of statistical reports was to question the correctness of their decisions; sometimes it arose out of a failure to appreciate what purpose such reports could serve. As a result, the National Office was not seldom without accurate knowledge of the amount of the evidences which were being issued against the national supply of gasoline.

Another bad result was that the "good," i.e. the strict, Boards were weakened in their administration. Citizens were prompt in

bringing to the attention of the "good" Boards instances of more lenient treatment elsewhere, and the "good" Boards in such circumstances found it difficult to hold their positions. Their first reaction was to secure help from the District Office in bringing the weak Boards up to the mark. But this help was not easy to render, and often it could not be rendered at all, unless the abuse was serious. Inevitably, therefore, the strictness of the rationing system tended to deteriorate. The National, Regional and District Offices attempted to offset this deterioration by auditing the Boards through the field staff, by securing statistical reports which disclosed the weak Boards, and by a continued flow of printed materials to the Boards, which stressed the importance of holding the line.

None of the techniques served, however, when an attempt was made to run a rationing system which was really "tough." The most notable instance was the situation on the East Coast during the spring and summer of 1943. The cut required then to get within the quota allotted by PAW was extremely deep — so deep that some of the Boards rebelled at an attempt to make it effective. As the crisis continued, and as the genuineness of the crisis became evident, the morale of the Boards improved temporarily, but this improvement was lost during the summer, as the pressure for relaxation mounted. An important factor in destroying morale was the feeling that the East Coast was being discriminated against for no good reason. In Congress, a bloc was formed which stressed this argument, and in the face of it the evidence mounted that a limit had been reached below which no cut could be made so long as the local Board system was maintained. The estimate can be ventured that a local Board system cannot cut more deeply into consumption of gasoline than twenty-five to thirty-five per cent. If something more is required, greater centralization is necessary. This means also a bureaucratic system, which makes arbitrary decisions with little or no deviation to allow for the peculiarities of particular cases. Before this sort of centralization can be effective in a democracy, the people who are rationed must be overwhelmingly convinced of the desirability of Draconian measures.

For reasons which have been presented, gasoline rationing was begun on a local Board system. Once this step had been taken, no radical changeover was possible, even if such a change had been considered desirable. In thousands of ways, the local Board system

became entrenched. The Board members, who started as amateurs in rationing, gradually became professional. They came, moreover, to constitute a group which instinctively resented imposition of control from the Washington or Regional Offices. At its worst, the local Board became enmeshed in local and state politics, and made some decisions for political reasons and as political favors. Such a situation, however, was the exception. In most cases, the local Board came to be simply the effective center of rationing authority. National decisions were heeded, but they were also modified in accordance with local judgments.

The National Office, after some experience, became fully conscious both of the merits and the defects of the local Board system. It accepted the conclusion that this system could be modified only in details. Under pressure, however, to bring consumption within quotas, minor attempts were made to take away some portion of Board autonomy.

Perhaps the most common instance was by stating that local Board actions with respect to issuance should be subject to administrative review by the District Office. Thus, in early 1943, when an amendment allowed issuance of non-preferred mileage in excess of the ceiling for home-to-work driving, the reservation was made that such breaks had to be referred to the District Office. The usefulness of District Office review was narrowly limited. For one thing, the District Offices lacked personnel and experience. To pile tasks upon them which could not be handled with efficiency and dispatch was futile and mischievous. For another thing, all local Boards were jealous of their prerogatives. They often resisted, either covertly or openly, the terms of the directive, and in such cases many District Offices were inclined to declare that they did not want to pass upon the decisions of the local Boards. The effect of this, in turn, was to put pressure upon the National Office to restore local Board autonomy. When Colonel Houston became the Deputy in Charge of Rationing, every instance in which the Regulations took away issuance authority from the local Boards was scrutinized with a view to limiting the interference of District, Regional and National Offices.

Another device for holding local Boards in line was sending around officers who would audit and review Board activities. At those times when the need for drastic reduction in consumption was imperative, every available officer from the District, Regional

and National Offices would be sent to the field. Board files would be inspected on a sampling basis with a view to detecting erroneous issuance. These drives secured results, because they had behind them the full force of a national program and because they mobilized a large number of officers. Under ordinary circumstances, however, inspecting officers were few in number, and they were perfunctory in their review of Board actions. Except in time of crisis, the National Office of OPA was, moreover, not unanimous concerning the organization and the duties of the inspection staff. The rationing divisions — especially those which ran complicated systems of differential rationing — held to the idea that the field officers who visited the Boards should be "specialists." These specialists should have detailed knowledge of the Regulations with respect to a few programs which would enable them to answer difficult questions raised by the Boards, and also to correct Board practice. This philosophy was not, however, accepted by those who thought along organizational lines and who believed firmly in the local Board system. In their view, the field staff should be "generalists." Their job was not to provide answers to difficult questions about particular programs, but to look at Board organization and provide the liaison between the Board and the professional personnel in District, Regional and National Offices. According to this opinion, it was disruptive of Board operations and morale to be subjected to visits from numerous outside officers who failed to see Board problems as a whole, and who demanded that special attention should be paid to particular rationing problems.

Because of this split in philosophy, rationing never set up a field staff which kept a close supervision of local Board issuance of gasoline. The supervision was spasmodic, both in its timing and in pressure. The tendency was always toward decentralization and maintenance of local Board autonomy.[4]

4. One device which operated in the direction of centralization should be mentioned. This was the establishment of issuance centers. In metropolitan communities, served by a large number of local Boards, places were set up at which actual issuance of coupons occurred. The local Board would, as always, pass upon the individual applications, but it would then transmit its decisions to the center which would see that the proper number of coupons were mailed out to the applicant. Essentially, therefore, the centers did not involve any impairment of the right of the local Boards to pass upon the proper issuance. They served merely as places for safekeeping and tailoring coupons, and for accumulation of good statistics of inventories and issuance. By centralization of this sort, the mechanical function of tailoring coupons, filling out book covers, mailing of rations, etc. were lifted from the local Board. The centers

It is, of course, easy to see how better integration of operations could be secured if the job could be done *de novo*, and if there had been more time. The Regulations could have been drafted in basic English. And even if this had been impossible in writing what the lawyers always insisted was the law, the Board guides and instructional material could have been better prepared and more promptly forwarded. The application forms which the public had to use could likewise have been a better product.

It is easy to see also that the field staff should have been larger, and more carefully trained. These men, on whom fell the task first of training the Boards and then of keeping the Boards in line, were sent out with very meager preparation, and they lost touch with the Washington Office. The District and Regional Offices developed a feeling of autonomy and came to resent Washington interference. One rule, which illustrates this better than any other, was that nobody from Washington could go to a Board without clearance with the Region and the District, and without being accompanied by a District or Regional representative.

By dint of hard experience, the instructional and procedural material going to the Boards, the application forms, the Regulations, the system of notification of changes in the Regulations were vastly improved. Rationing was a new art in the United States, and much had to be learned by doing. While it cannot be asserted that all of the problems were solved, a great deal of the confusion which accompanied the inauguration of the early rationing programs was simply unavoidable in a democratic nation.

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also permitted compilation of statistics more accurately and promptly, and they enabled safekeeping to be more effective. The local Boards often had poor facilities in which to keep valuable ration evidences, and many thefts had resulted. Centralization obviously made it possible to remedy these defects.

Issuance centers were established, beginning in the summer of 1943, in most of the large cities of the nation, and were a marked success. But during the period when the plan was under discussion, as well as during the early months of its inauguration, critics were fearful that the scheme was to be used for broader purposes. Obviously, the centers could be used as places in which to check upon Board decisions. Scrutiny of these decisions could be made as minute as seemed desirable in order to secure issuance in accordance with the Regulations. This fear held back establishment of centers in many regions, and only after explicit assurances were given that no impairment of Board autonomy was intended did the scheme go forward.

INCOME, REGION, COMMUNITY-SIZE AND COLOR

In Volume Six of the National Bureau of Economic Research Studies in Income and Wealth, Herbert E. Klarman examines native-white family incomes reported in the 1935–36 Study of Consumer Purchases[1] and concludes: "Analysis of the data from the Study of Consumer Purchases shows that income differences among communities varying in size are significant. . . . The income differences among regions are apparently not significant."[2] Other contributors to the same volume make various comments concerning Mr. Klarman's thesis, including:

(1) When certain policies, such as the allocation of Federal grants-in-aid among states, are considered, it is immaterial whether low income in a state is statistically associated with the geographical position of that state or with the prevalence of communities of small size.[3]

(2) The conclusion that "income differences among regions are apparently not significant" is invalid because of the restriction of analysis to native-white incomes. Exclusion of Negro incomes inflates Southern per family income more than inclusion of non-native white income inflates per family income in Northern and Western States.[4]

This paper expands the above two comments. First, it asks what is the economic significance of a distinction between low income associated with region as such and low income associated with community-size. Next it inquires if estimates of State income distribution made by the Department of Commerce and the National Industrial Conference Board provide evidence in support of Mr. Klarman's conclusion. A note is added concerning the relative heights of income per *white* family in Southern and non-Southern States.

1. Statistical findings of the Study of Consumer Purchases are published in a series of Department of Agriculture "Miscellaneous Publications." Income data from the Study are summarized in the National Resources Committee volume, Consumer Incomes in the United States.

2. Conference on Research in Income and Wealth, Studies in Income and Wealth, Volume Six, p. 226.

3. Ibid., remarks by Daniel S. Gerig, Jr., and Laura Wendt, pp. 226–231.

4. Ibid., loc. cit.

I

Economists are presumably interested in geographical income data chiefly because they hope that the information gained will help them (1) to make a judgment concerning the present geographical distribution of labor relative to other resources, and (2) to apply geographically the teachings of conventional welfare economics with respect to a program of public finance.[5] A distinction between low income associated with region as such and low income associated with size of community, then, presumably derives its chief economic significance from conclusions which may be drawn with respect to resources policy or public finance.

With respect to resources policy, the distinction between community-size and region might have economic significance in either of two ways. (1) Conceivably a strong positive relationship between size of community and height of income might provide evidence that regional disparities of income are due chiefly to the presence of inferior labor resources in the low-income area, rather than to the ratio of labor to other resources. (2) Such a relationship might indicate that governmental agencies striving to better the geographical distribution of resources should not concentrate their efforts in a few especially low-income regions, but should instead direct their efforts towards small communities in general.

It is doubtful that either of these conclusions would be justified, however, even if small community-size were the only statistical determinant of low income. That a strong statistical relationship between size of community and height of income is due wholly or chiefly to the more efficient nature of human resources in the larger communities is especially to be doubted.[6] It is true that the percentage of persons in business and professional occupations is greater in the larger communities; it is probably true that the more capable "labor agents" tend to enter the business and professional occupations; and the conjecture might be hazarded that, on the average, the business and professional men of the cities are more capable than those of the towns. Nevertheless, the great difference in incomes between such chiefly urban States as, say, Cali-

5. The viewpoint here with respect to labor and resource distribution is, of course, that a more nearly even distribution of labor relative to other resources is a better distribution. With respect to public finance policy, it is that a more nearly even distribution of income is a better distribution.

6. Mr. Klarman's paper, of course, does not argue that the relationship between community-size and income-height can be explained in this way.

fornia and New York, and such largely rural States as, say, Kansas and Kentucky, can hardly be explained in terms of the migration of the able and the higher educational levels of the larger communities.

It is also to be doubted that governmental agencies striving to better the distribution of resources should direct their efforts towards small communities in general, instead of concentrating them in a few extensive areas characterized by very low incomes — or that they should do so even if the Klarman thesis concerning region and community-size were correct. Except where low-income areas are of rather broad expanse, the obstacles to geographical mobility of labor are comparatively slight; knowledge of job opportunities is greater and the trouble and expense of making a move are less when high-income centers are only a short distance away. Likewise, when industry produces for a national or international market, it usually expands with greater ease in an established area where it finds necessary labor skills and satellite industries at hand, and perhaps also where it can take advantage of purchasers' habits of looking to that area; and when industry produces for a local market, it usually comes into existence more easily if it finds a high-consumption market at the beginning. Finally, the bulk of the poverty-stricken communities are located in the low-income States.[7] Perhaps the leading contribution of the community-size approach in this regard is to remind a potential policy-maker that State lines are political rather than economic boundaries, and that a relatively high-income State, such as Michigan, may have a broad area generally characterized by low incomes. Extensive low-income areas existing outside the low-income States deserve a recognition which isolated low-income communities do not.

The distinction between community-size and region has somewhat greater significance for public finance. In those cases where Federal expenditures do not take the form of grants-in-aid to States,[8] but are direct disbursements to inhabitants of particular localities, and where the type of expenditure allows considerable

7. This statement is based upon fact, rather than upon logical necessity, of course. Densely populated States characterized by a high income per family may have more poverty-stricken communities than sparsely populated States characterized by a low income per family.

8. See the remarks by Daniel S. Gerig, Jr., and Laura Wendt, loc. cit. (See footnote 3 above.) When questions of public finance are considered, of course, income *per capita* may be of greater interest than income *per family*.

flexibility as to choice of locality, policy could be affected by information concerning the height of average income in various communities. This could serve to reinforce even more particularistic policies by which the Federal Government would make payments to low-income families and groups wherever they are found.[9] Even with respect to public-finance policy, however, the significant fact remains that the low-income areas include the bulk of the low-income communities, and that for this reason alone, if for no other, conventional welfare economics dictates greater stress upon those areas — and would do so, even if community-size were the sole statistical determinant of income. The only difference is that the degree of emphasis indicated is less than that derived from an income-distribution map showing State lines only.

The economic significance of the distinction between low income associated with region as such and low income associated with prevalence of small communities appears, therefore, to be not very great. It is great enough, however, to make Mr. Klarman's conclusion that "income differences among regions are apparently not (statistically) significant" worthy of further investigation.

II

One method of testing the Klarman thesis is to compare average family income in Southern and non-Southern States of approximately the same degree of urbanism.[1] The first step here is to make use of census information in order to determine which non-Southern States are not more urban than the Southern States. Indices shown in Table II were derived as follows:

9. For example, relief and WPA payments.

1. The thesis can also be tested by reference to the very Study of Consumer Purchases upon which Mr. Klarman's paper is based. Daniel S. Gerig, Jr. and Laura Wendt (loc. cit) point out that, if Mr. Klarman had used the over-all data reported by the Study, instead of merely the data for native-white families, he would not have arrived at his conclusion concerning the statistical "insignificance" of region as such. Likewise, the National Resources Committee statisticians who analyzed the Study of Consumer Purchases Income data warn that the Study probably overestimates Southern rural incomes. (Consumer Incomes in the United States, pp. 34–36.)

Mr. Klarman, however, believes that the over-all data for non-Southern communities do not include sufficient weighting for non-native white families, and does not accept the National Resources Committee warning as conclusive. In this he is supported by Rufus Tucker's qualitative observations in the February, 1940, Review of Economic Statistics. ("The National Resources Committee's Report on Distribution of Income," pp. 171–172.)

(1) Weights as shown in Table I were assigned to the different community sizes reported in census data for the States.[2]

TABLE I

WEIGHTS ASSIGNED TO COMMUNITY-SIZES

Unincorporated places	1.0
Incorporated places, less than 1,000	1.5
Incorporated places, 1,000– 2,499	2.0
Incorporated places, 2,500– 4,999	3.0
Incorporated places, 5,000– 9,999	4.0
Incorporated places, 10,000– 24,999	5.0
Incorporated places, 25,000– 99,999	6.0
Incorporated places, 100,000–499,999	7.0
Incorporated place, 500,000 and above	8.0

(2) The weights were then multiplied by the percentages of population (1940) in each of the community-sizes, and the resulting products were added to form the "urbanism" indices.

When measured in this way, the fourteen Southern States[3] reveal indices which have a range and a mean (not weighted by the sizes of the various States) approximately the same as that of the fifteen non-Southern States with indices lower than that of the most urban Southern State (Florida). The analysis below, however, is restricted to only fourteen non-Southern States. Because of Nevada's extraordinarily small population and the high per capita income of the Reno district, it is believed that inclusion of

2. Any set of weights used to construct an urbanism index involves, of course, an arbitrary choice. This particular set of weights was assigned because other sets tried, whether they placed either relatively less or relatively more weight upon larger community sizes, resulted in indices more favorable to the thesis that incomes are lower in the South than in equally non-urban areas of the North and West. Thus, with this range of weights from 1 to 8, the mean urbanism index of the fourteen least urban non-Southern States (excluding Nevada) is three per cent higher than the index for the fourteen Southern States; but, if the range of weights is only from 1 to 5 and there is a progression of only .5 at each step, the mean index of the Southern group is two per cent higher than that of the non-Southern; and, if more emphasis is placed upon the larger communities by the assignment of weights of 7, 9, and 11 to the three largest community-sizes, the mean for the Southern group is one per cent higher than that for the non-Southern. It might be pointed out that in 1940 no city in the twenty-eight States of the two groups had a population above 500,000.

3. These include the States of the Confederacy plus Oklahoma, Kentucky, and West Virginia. If merely the States of the Confederacy are included, the mean urbanism index is slightly higher and mean family income is slightly lower.

Nevada in the comparisons would make conclusions concerning incomes in Southern and non-urban non-Southern States less realistic. When Nevada is excluded, the unweighted mean shown in Table II for the non-Southern group is raised from 263 to 265.

TABLE II

URBANISM INDICES OF FOURTEEN SOUTHERN AND THE FIFTEEN LEAST URBAN NON-SOUTHERN STATES (1940)

Southern		Non-Southern	
Florida	370	Oregon	357
Texas	317	New Hampshire	344
Louisiana	306	Nebraska	306
Tennessee	280	Iowa	297
Oklahoma	280	Kansas	290
Virginia	272	Maine	270
Georgia	267	Montana	265
Kentucky	243	Arizona	251
Alabama	240	Wyoming	250
North Carolina	222	Vermont	234
West Virginia	221	Nevada	232
South Carolina	208	New Mexico	224
Arkansas	186	Idaho	224
Mississippi	180	South Dakota	204
	——	North Dakota	192
Mean	257		——
		Mean	263

Both Department of Commerce estimates of *income payments*[4] and National Industrial Conference Board estimates of *income realized*[5] in 1940 indicate that income per family is substantially lower in the fourteen Southern States than in the fourteen least urban non-Southern States (excluding Nevada). Estimates shown in Table III are derived from Commerce and Conference Board figures with the use of family-size information from the 1940 census [6]

4 See Survey of Current Business, August, 1945.

5. See Conference Board Economic Record, July, 1942.

6. Estimates of 1940 income are used in order that family-size information from the 1940 census may be employed

Percentages derived from Commerce estimates show the following relationships between the unweighted mean income *per capita* for the fourteen least urban non-Southern States (excluding Nevada) and the unweighted mean for the Southern States:

Group	1929	1933	1940	1944
Non-Southern	146	138	142	133
Southern	100	100	100	100

Comparison of the Department of Commerce estimates gives the following results: mean family income for the non-Southern group is higher than income per family in thirteen of fourteen Southern States, Virginia providing the lone exception; income per family for the lowest-income non-Southern State (New Mexico) is higher than income per family in all but four of the Southern States; mean family income for the non-Southern group (unweighted for the fourteen States) is 29 per cent higher than the mean for the Southern group.

Comparisons of estimates derived from Conference Board figures are similar, but do not reveal quite so wide an income margin between the two groups. The mean for the non-Southern group is 24 per cent higher than that for the Southern. Two Southern States (Virginia and West Virginia) have an income per family higher than the non-Southern mean; and seven, or half, of the Southern States have an income per family higher than that of the lowest-income non-Southern State (North Dakota).

TABLE III

INCOME PER FAMILY (1940) IN FOURTEEN SOUTHERN STATES AND THE FOURTEEN LEAST URBAN NON-SOUTHERN STATES (EXCLUDING NEVADA)

Southern	Commerce	NICB	Non-Southern	Commerce	NICB
Virginia	$1,890	$1,760	Wyoming	$2,178	$2,364
West Virginia	1,714	1,780	Vermont	2,032	1,845
Florida	1,694	1,674	New Hampshire	1,966	1,692
Texas	1,569	1,562	Montana	1,959	1,995
Louisiana	1,428	1,580	Maine	1,934	1,835
North Carolina	1,422	1,377	Oregon	1,853	1,792
Tennessee	1,395	1,307	Arizona	1,797	1,691
Georgia	1,292	1,292	Iowa	1,746	1,602
Kentucky	1,263	1,386	Nebraska	1,602	1,576
Oklahoma	1,253	1,349	Idaho	1,584	1,652
South Carolina	1,230	1,290	North Dakota	1,509	1,374
Alabama	1,126	1,079	Kansas	1,477	1,571
Arkansas	983	975	South Dakota	1,466	1,377
Mississippi	808	792	New Mexico	1,460	1,525
Mean	$1,362	$1,372	Mean	$1,755	$1,707

Estimates derived from Department of Commerce and National Industrial Conference Board estimates of income payments per capita and income realized per capita, respectively, and from Census information concerning average family size in the various States.

The above evidence does not, of course, cast any doubt upon the validity of Mr. Klarman's first conclusion, that "income differences among communities varying in size are (statistically) significant."[7] It strongly indicates, however, that complete rejection of the regional thesis is as mistaken as complete passing over of the relationship between income-height and community-size, or, in other words, that income differences among regions, as well as among communities varying in size, are statistically significant.

III

One reason why Mr. Klarman reached his conclusion concerning the statistical significance of region was, of course, his exclusion of Negro incomes. Findings reported by the Study of Consumer Purchases indicate that in communities of a given size Southern native-white family incomes tend to be slightly higher than native-white family incomes in similarly sized communities in other regions.[8] It may be of some interest, therefore, to inquire what Department of Commerce and Conference Board estimates for 1940 can show concerning the height of average white-family income in the Southern and non-Southern States.

Obviously, the Commerce and Conference Board estimates do not directly reveal any information concerning the height of white-family incomes. No breakdown whatsoever is given as to color. Estimates of the approximate height of mean income per white family, however, can be derived from Commerce and Conference Board estimates in the following way:

(1) Take the 3–1 ratio shown among the white and Negro families questioned by the Study of Consumer Purchases as being indicative of the ratio of white to non-white income in the South.[9]

(2) Weight the percentages of white population in Southern States at 3 and the percentages of non-white population in the same States at 1, and thus calculate what percentages of total State income are received by whites and non-whites respectively.

(3) Take the 2–1 ratio shown by the Study of Consumer Purchases for Northern urban Negroes and whites as being indicative

7. The geographical income pattern for non-Southern States shows a close relationship between height of income and height of urbanism index. See below, Table V.

8. Klarman, op. cit., p. 217.

9. Consumer Incomes in the United States, pp. 28–29.

of the ratio of white to non-white income in the non-Southern States,[1] and complete calculations as in (2).

These calculations, of course, yield only rough approximations. If Southern white incomes are overestimated in the Study of Consumer Purchases, the 3–1 ratio is too high and Southern white-family incomes are overestimated in Table IV. However, comparisons of a rough type can be made.

TABLE IV

Approximate Mean Income of White Families in Fourteen Southern States

State	Commerce	NICB	State	Commerce	NICB
Virginia........	$2,268	$2,122	Georgia	$1,654	$1,654
Florida.	2,067	2,042	Tennessee	1,575	1,477
Louisiana ...	1,885	2,086	Alabama	1,441	1,381
West Virginia	1,779	1,851	Oklahoma	1,341	1,443
North Carolina	1,763	1,707	Kentucky..	1,339	1,469
Texas	1,742	1,734	Mississippi	1,204	1,180
South Carolina	1,722	1,806	Arkansas ...	1,180	1,170

Unweighted mean:

Department of Commerce.	$1,640
National Industrial Conference Board	1,653

Estimates derived from Table III and 3–1 white-Negro income ratio indicated by Study of Consumer Purchases.

These estimates for Southern white families can be compared with non-Southern family incomes in at least four different ways, with each method of comparison perhaps having a separate economic significance: (1) average white-family income in the South with average white-family income in the thirty-four non-Southern States; (2) average white-family income in the South with average *family* income in the thirty-four non-Southern States; (3) average white-family income in the South with average white-family income in the fourteen least urban non-Southern States; (4) average white-family income in the South with average *family* income in the fourteen least urban non-Southern States.

1. Ibid., loc. cit.

TABLE V

MEAN FAMILY INCOME AND APPROXIMATE MEAN WHITE-FAMILY INCOME 1940, IN THIRTY-FOUR NON-SOUTHERN STATES

State	Family Income Commerce	Family Income NICB	White Family Income Commerce	White Family Income NICB
New York	$3,217	$4,011	$3,285	$4,097
Delaware	3,215	3,811	3,446	4,081
Connecticut	3,160	3,215	3,191	3,247
New Jersey	2,971	2,979	3,059	3,066
Massachusetts	2,911	3,074	3,016	3,099
Maryland	2,777	2,742	3,027	2,989
Nevada	2,759	2,934	2,849	3,026
Rhode Island	2,717	2,945	2,741	2,970
Illinois	2,614	3,089	2,685	3,169
California	2,576	3,046	2,634	3,111
Pennsylvania	2,449	2,867	2,516	2,947
Michigan	2,401	2,753	2,449	2,808
Ohio	2,315	2,416	2,379	2,481
*Wyoming	2,178	2,364	2,196	2,383
*Vermont	2,032	1,845	2,034	1,847
Washington	2,022	2,278	2,042	2,301
*New Hampshire	1,966	1,692	1,968	1,694
Wisconsin	1,961	2,451	1,971	2,463
*Montana	1,959	1,995	1,992	2,031
Indiana	1,948	2,041	1,983	2,076
Minnesota	1,934	2,117	1,944	2,128
*Maine	1,934	1,835	1,938	1,839
Utah	1,920	2,200	1,934	2,219
*Oregon	1,853	1,792	1,867	1,807
Colorado	1,834	2,188	1,848	2,206
*Arizona	1,797	1,691	1,938	1,825
Missouri	1,768	2,048	1,838	2,119
*Iowa	1,746	1,602	1,755	2,119
*Nebraska	1,602	1,576	1,614	1,588
*Idaho	1,548	1,652	1,596	1,610
*North Dakota	1,509	1,374	1,520	1,384
*Kansas	1,477	1,571	1,500	1,599
*South Dakota	1,466	1,377	1,489	1,399
*New Mexico	1,460	1,525	1,522	1,591

* One of fourteen least urban non-Southern States (excluding Nevada).

Unweighted mean:

	Family Commerce	Family NICB	White Family Commerce	White Family NICB
34 Non-Southern States	$2,178	$2,327	$2,228	$2,369
14 Least Urban Non-Southern States . .	1,755	1,707	1,781	1,733
14 Southern States . .	1,362	1,372	1,640	1,653

Estimates derived from Department of Commerce estimates of income payments, Conference Board estimates of income realized, 1940 Census information concerning family size, and white-Negro income ratio indicated by Study of Consumer Purchases.

Comparison 1

The mean income of white families in the South is much lower than the mean income of white families in the thirty-four non-Southern States. Estimates derived from Department of Commerce figures show only one Southern State (Virginia) with a mean white-family income as high as the unweighted mean for the non-Southern group. Estimates derived from Conference Board figures show no Southern State in so relatively favorable a position The unweighted means for the Southern group are lower than the unweighted means for the non-Southern group by 35 per cent (Commerce) and 44 per cent (Conference Board), respectively. Only six non-Southern States, according to both Commerce and Conference Board figures, show a mean white-family income lower than the unweighted mean for the Southern group.

Comparison 2

Since mean white-family income is less than two per cent higher than mean family income in the non-Southern group, Comparison 2 yields results very similar to those of Comparison 1

Comparison 3

Mean white-family income in the fourteen least urban non-Southern States is somewhat higher, but not substantially higher than mean white-family income in the South. Estimates derived from Commerce and Conference Board figures for 1940 show ratios of 109 to 100 and 105 to 100, respectively [2]

2. These ratios, of course, would be somewhat different if they were derived from data for other years. If income per white family changed by

Comparison 4

Since average family income in the fourteen least urban non-Southern States is approximately two per cent lower than average white-family income, the ratios referred to in Comparison 3 become 108–100 and 103–100, respectively.

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exactly the same percentage as income per capita, the following ratios could be calculated from Commerce estimates:

1929 — 112 to 100 1933 — 106 to 100 1944 — 102 to 100

(See footnote 6, p. 593, for percentage relationships of per capita income in the two groups of States.)

PRICES, INCOME FLOW AND EMPLOYMENT[1]

The relationship between income aggregates and levels of employment presents such enchanting theoretical opportunities that the more venerable subject of general and relative price movements has tended to recede into a limbo as far as current economic discourse is concerned. Price movements are relevant to the problem of income and employment levels, as Keynes indicated in the book which fomented the bulk of this discussion, yet mention of them appears only infrequently and then usually for a limited discussion.[2] Among other things, it is hoped that this paper will disclose some of the difficulties inherent in the Beveridge proposal to create more jobs than there are people to fill them, and the significant part that price phenomena play in this difficulty.[3] Primary consideration will be given to the direct effects of price changes on income flow, but those secondary effects which arise from changes in expectations will not, in general, be discussed.

I

Let us first set up a simple equation for working purposes. Call K_0 the average propensity to spend in expenditure period zero, and Y_0 spendable funds available in that period. Then the total amount of money spent in period zero will equal K_0Y_0. Call P_0 the general price level in period zero, and T_0 the total volume of real-income producing transactions which occur in that period. Then:

I. $K_0Y_0 = P_0T_0 =$ total national income in period zero.

Assume that there is an addition to the flow of spendable funds in expenditure period one, brought about, let us say for convenience of exposition, through a government outpayment financed via

1. The author is an economist in the Bureau of Labor Statistics, Department of Labor. Nothing contained herein necessarily reflects the opinion or attitude of the Anti-Trust Division.

2. J. M. Keynes, General Theory of Employment, Interest and Money, New York, 1936, pp. 289, 290; for discussion of certain related problems, see T. Koopmans, Review of Economic Statistics, "The Dynamics of Inflation," May, 1942, and Abram Bergson, Review of Economic Statistics, "Price Flexibility and the Level of Income," February, 1943.

3. The author has received helpful criticisms from Mr. Haskell P. Wald, Mr. Lloyd Metzler, and Mr. Richard B. Goode.

bank credits, and that expenditure period one is a period in which substantial unemployment of factors of production exists.[4] Call ΔY_1 the increase in spendable funds which results from the single outpayment.[5] The amount of money spent in period one will equal $K_1(K_0Y_0+\Delta Y_1)$, where K_1 equals the average propensity to spend in period one. Call ΔT_1 the increase in the volume of real income producing transactions in period one over the number which occurred in period zero. Then in period one the increase in total national real income over the level which existed in period zero can be evaluated in the following way:

$$K_1(K_0Y_0+\Delta Y_1)=P_0(T_0+\Delta T_1)$$

II. $P_0\Delta T_1=K_1(K_0Y_0+\Delta Y_1)-P_0T_0=$ the increase in total national real income

This equation is based on the assumption that there has been no increase in the general price level (i.e. $P_0=P_1$), or putting it another way, that the money income elasticity of the aggregate supply function is equal to one.

From equation II it is evident that $P_0\Delta T_1$ measures the increase in total national income. It would appear from this equation that the increase resulted from the increase in expenditures of $K_1\Delta Y_1$. Such a formulation, however, assumes that the average and marginal propensities to spend are equal. If this is not assumed, and it should not be for the general case, the incremental elements of the equation can be expressed as follows:

IIa. $$P_0\Delta T_1=k\Delta Y_1$$

Here k equals the marginal propensity to spend. Either equation II or IIa is correct, as long as it is kept in mind which propensity is being discussed.

Next we shall consider the effect on employment of a single outpayment when income elasticity of supply is assumed to be equal to zero. If there is a rise in prices in expenditure period one (ΔP_1), and if that price increase is just sufficient to compensate for the increase in spendable funds (ΔY_1) and thereby prevent it from having any effect on the number of real income producing transactions in that period (i.e. $\Delta T_1=0$), the equation would read:

4. C. D. Long, this JOURNAL, "The Concept of Unemployment," November, 1942, pp. 1–30.

5. We shall consider the effects of a single outpayment rather than a sequence or continuous stream of them.

III. $$K_1(K_0Y_0+\Delta Y_1)=(P_0+\Delta P_1)(T_0+\Delta T_1)$$

but since $\Delta T_1=0$, *ex hypothesi*

$$\Delta P_1=\frac{K_1}{T_0}(K_0Y_0+\Delta Y_1)-P_0$$

This means that for a given outpayment (ΔY_1) a compensatory price increase will be directly proportional to the average propensity to spend in the period of the price increase and inversely proportional to the volume of real income producing transactions. It is, of course, obvious that the size of the compensatory price increase is also a function of the volume of spendable funds and of the preëxisting price level. If the condition in equation III holds, the outpayment will produce, in period one, no increase in total national real income and presumably no increase in employment.[6]

As indicated in equation III, a completely compensatory price increase in period one prevents the volume of real income producing transactions from rising above the level which existed prior to the outpayment. The amount of the outpayment ΔY_1 which is irretrievably lost in leakages in period one is equal to $\Delta Y_1(1-K_1)$. It would appear that if in each subsequent period the general price level adjusted itself to a precisely compensatory level, the outpayment would be dissipated in the form of leakages, and that the price changes would neutralize the potential beneficial effects on employment and income which might have resulted.

It has been shown, then, that if the money income elasticity of supply equals zero, the outpayment will, within the period, be absorbed in price increases, and if the income elasticity of supply equals one, the outpayment will generate a proportionate increase in total national real income. Finally, if income elasticity of supply is greater than one, the rise in total national real income will be more than proportional to the outpayment, but prices will fall. A decline in prices with a rising level of spendable funds seems so unlikely that we shall not pursue the matter further.

The disappearance of the outpayment in the form of price inflation and leakages is not as confusing as it might appear from the equations. Those people who received the money disbursed by the government would, in period one, be able to buy certain

6. We say "presumably" for reasons to be discussed below; see equation IV.

amounts of goods which they could not have bought if there had been no outpayment. But their gain in real income would be at the expense of others who did not benefit directly from the outpayment, for the latter group of people would have had no increase in money income, and as a result of the price increase would be left with less real income.[7] That is, the price increase affects adversely the purchasing power of all money, but the increase in the money income of the recipients of the outpayment more than offsets the decline in the value of money.

The equations also conceal the fact that the manner in which the outpayment is distributed can have an effect on employment, even though the volume of real income producing transactions remains unchanged. It is possible that the expenditures resulting from the outpayment will be directed to those segments of the economy where the ratio of man hours to each real income producing transaction is relatively high (this ratio has been used as a basis of measurement, not because it was thought to be ideal, but rather for want of a better one), with the result that the average ratio of man hours to each real income producing transaction for the whole economy would be increased. To show this more clearly, employment producing transactions can be substituted in the equations for real income producing transactions. Substituting in equation II we get:

$$(A_1K_1)(K_0Y_0+\Delta Y_1)=P_1(E_0+\Delta E_1)$$

IV.

$$\Delta E_1=\frac{A_1K_1}{P_1}(K_0Y_0+\Delta Y_1)$$

Here A_n identifies the manner in which the outpayment is distributed, and E_n represents employment producing transactions in terms of man hours of employment.

In general, those effects of price increases which apply in the preceding equations appear to apply equally well here, although a compensatory price increase in the former class of equations need not be equal to a compensatory price increase in the latter class.

We shall not use equations employing E, because if we did so we would no longer have a measure of total national income in terms of money, which is particularly useful in the subsequent discussion. Furthermore, a government outpayment can be

7. This, of course, is the distinction between real and money income, a relationship frequently dodged in discussions of employment.

selectively directed only in the initial disbursement.[8] Hence A_n in equation (IV) would approach a numerical value of one in some subsequent period, and we would find ourselves with an equation very much like equation II (assuming a single outpayment).[9] From equation IV it appears that employment can vary within fairly wide limits at any given level of total national real income. It is equally clear that we can have a compensatory price increase regardless of the class of equations with which we work.

One other point deserves some consideration. If there were a completely compensatory price increase in the first expenditure period, and if there were no additional outpayments, prices would have to decline in each period following the outpayment, if total national real income were not to fall below the level which existed prior to the outpayment. In period one there was added to the pre-existing level of expenditures an amount equal to $K_1\Delta Y_1$, which required an increase in the general price level of ΔP_1 (as evaluated in equation III), in order that the price increase be precisely compensatory. In period two, the excess of the level of expenditures over the level which would have existed if there had been no outpayment, is found to equal $K_2K_1\Delta Y_1$ (see equation V below), but $K_2K_1\Delta Y_1$ must be less than $K_1\Delta Y_1$ because K_1 and K_2 both have values of less than one.[1] Therefore the increase in total national real income in period two over the level which existed prior to the outpayment will not be less than it was before the initiation of the outpayment only if P_2 is less than P_1. The amount by which the price level must decline can be evaluated by solving the equation for period two for the value of ΔP_2:

$$K_2K_1(K_0Y_0+\Delta Y_1)=(P_0+\Delta P_1-\Delta P_2)T_1$$

V. $$\Delta P_2=P_1-\frac{K_2K_1}{T_1}(K_0Y_0-\Delta Y_1)$$

8. This is clearly the case if we are to permit the consumer a free choice of goods. The recipients of the outpayment will spend the money giving primary consideration to their personal needs, rather than to the effects of their spending on the distribution of spendable funds.

9. It would be identical in form, the only difference being the use of E_n instead of T_n.

1. Incentives to invest, which might result from the expansion in the stream of spendable funds, are ignored.

II

The demand and supply functions for different products and services have different income and price elasticities and, as a result, would respond differently to an addition to the stream of spendable funds. Relative price changes cause substitutions to occur. They also cause changes in the distribution of spendable funds (the extent of the redistribution depending in part upon price elasticities of demand), and might therefore cause changes in the average propensity to spend for the entire economy.[2] It is the latter effect with which we shall be concerned here. It will be found that results different from those implied in the preceding section can develop. Here, as in the earlier part of the paper, the effects of expectations on changes in prices and levels of spendable funds, will not be considered.

Suppose that the economy can be divided into two groups such that the average propensity to spend of group α exceeds that of group β at the relevant levels of spendable funds. If the price elasticity of the demand for the products and services supplied by group α is equal to zero, a price rise on their part which raises the general price level by the fully compensatory amount (as defined in equation III) would cause the entire proceeds of a government outpayment to flow into the hands of that group (provided that the prices of the products and services sold by group β did not change). The result of this price increase would be to raise the average propensity to spend for the whole economy, because a larger proportion of the disposable funds would be in the hands of the group with the higher propensity to spend. The extent to which the average propensity to spend for the entire economy increases would vary directly with the excess of the average propensity to spend of group α over that of group β and with the ratio of the outpayment to the total volume of spendable funds. If the condition in equation VI (below) holds, the price increase on the part of group α would enhance rather than detract from the effectiveness of the outpayment.

$$\text{VI.}\qquad \sum_{p=2}^{p=n} \Delta K_p(\Delta Y_1) > (1-K_1)(\Delta Y_1)$$

$$\text{Canceling: } \Delta Y_1 \qquad \sum_{p=2}^{p=n} \Delta K_p > (1-K_1)$$

2. Cf. L. Metzler, Review of Economic Statistics, "Effects of Income Redistribution," February, 1943, pp. 49–57.

Here $\sum_{p=2}^{p=n}$ covers the number of periods over which the outpayment will have a significant effect, and ΔK_p equals the change for the entire economy in the average propensity to spend.

The right-hand side of the equation determines the leakage in the period of the price increase, and the left-hand side determines the cumulative effect of the price increase as it is reflected in the increase in the average propensity to spend. It is evident that if the left-hand side of the equation is greater than the right-hand side, the effect of the outpayment will be enhanced; if equal, it will have no effect; if less, it will have a detracting effect.

If, instead, the prices of the products and services sold by group β had been increased (price elasticity of demand assumed equal to zero) while the prices of the products and services sold by group α had remained constant, ΔK_p in equation IV would have been negative, and the depressing effect of the price increase on the outpayment would have been double-barreled. Not only would there have been a dissipation through price inflation and leakages but also through a decline in the average propensity to spend for the entire economy. If the price elasticity of demand for the products of group α had been greater than one, a price increase on their part would have been double-barreled in the same fashion.

The effects of relative price decreases are symmetrical with increases, as far as the redistribution of spendable funds is concerned. For example, a price decrease on the part of group α (price elasticity of demand assumed to be greater than one) would increase the average propensity to spend for the entire economy. It is clear from the discussion in Part I of this paper that general price decreases are also symmetrical with general price increases. General price decreases enhance the effectiveness of an outpayment within the expenditure period.

We shall continue to be concerned primarily with price increases rather than with price decreases, because we have been considering the effects of additions to the stream of spendable funds. It has already been noted that additions to the stream of spendable funds are not likely to be accompanied by price declines.[3]

3. Additions to the stream of spendable funds should, in general, push demand curves upward with the result that, *at a given price*, the price elasticity of the new demand curve will be less than that of the demand curve which existed prior to the outpayment. This means that prices will have some ten-

The conditions under which a price increase enhances the effectiveness of an outpayment can be summarized as follows:

(1) the price elasticity of the demand for the product or service must be less than one;

(2) the group which sells the product or service must be characterized by an average propensity to spend which is higher than the average for the entire economy;

(3) the condition in equation VI must be satisfied.

The conditions under which a price increase detracts from the effectiveness of an outpayment can be summarized as follows:

(1) the price elasticity of the demand for the product or service must be greater than one;

(2) same as 2 above;

(3) same as 3 above.

Similar conditions can be laid down with respect to all of the various combinations of these variables, wherein a relative price change will enhance, detract, or be neutral with respect to an addition to the stream of spendable funds.

In the first part of this paper it was shown that a general price increase tends to reduce the effect on real income of an addition to the stream of spendable funds within the expenditure period. In this part of the paper it was shown that under certain conditions a price increase can enhance the effectiveness of an outpayment in the periods subsequent to the one in which the price increase occurs, and that under certain conditions it can have an opposite effect. These differences in the effects of price changes are partly a matter of timing.

Another aspect of price changes and redistribution of spendable funds is also a matter of timing — namely, differences in the average velocity of spending. Assume now that the economy can be divided into groups α, β, and γ, and that the average expenditure period for group α is equal the average expenditure period for the entire economy while that of group β is twice as long as the average for the entire economy. If, as a result of a price increase, all of the proceeds of an outpayment flow into the hands of group α, the funds will on the average reënter the stream of spendable funds after there has been a leakage determined by the value of $(1-K_1)$. If, as a result of a price increase, the funds had flowed

dency to rise as a result of the outpayment, assuming that in the typical case marginal costs are not declining within the relevant ranges.

into the hands of group β, the leakage would have been determined by the value of $(1-K_1)+(1-K_2)$. Thus the result of the price change on the part of group β would cause the proceeds to reënter the stream of spendable funds on the average after a greater amount had leaked off than would have been the case if group α had changed its prices. What this really means is that the redistribution of spendable funds has caused a change in the average propensity to spend for the entire economy.

Even if both group α and group β would ultimately dispose of the same percentage of their receipts, the redistribution of funds in favor of group β would extend the period over which the outpayment had a significant effect and reduce the peak level below that which would have been attained if those funds had not flowed into the hands of group β.

III

There are many characteristics of an economy with unemployed factors of production which would tend to damp down potential price increases. Some of them are listed below without providing any detailed analysis (they have already been the subject of much discussion); competition among unemployed resources tends to make short-run supply relatively elastic; high cross price elasticities among oligopolistically priced commodities give such price adjustments a lagged and discontinuous quality; bands of indeterminacy bounding cost and revenue functions plus general inertia in the business community inhibit and slow down price adjustments; institutional factors such as interest charges on bonds and labor union contracts often preclude frequent price adjustments.

It would appear that in areas of non-administered prices where short run supply is inelastic, and in areas of collusion and price leadership we find the areas where price increases are most likely to occur in response to a government outpayment which is made in a period when unemployed factors are numerous. Thus we see that the area in which price increases are likely to lead or parallel additions to the stream of spendable funds is a highly restricted one.

The restricted sphere of the potential price increases in a period of unemployment is not the whole story. If there is to be a perfectly compensatory price increase in the general price level,

it is essential that the sum of the individual and independent price decisions made in this restricted sphere add up to an amount which would just offset the potential increase in real income producing transactions which would be generated by the outpayment. Just as the economist relies upon the independence of the decisions of investors and consumers for the ex ante inequality of savings and investments, and just as he relies upon the chaos of independent investment decisions in bringing about a vertical maladjustment in production,[4] so it seems reasonable to argue that he can rely upon the independence of price decisions made in a period of unemployment to add up to an increase in the general price level which is less than fully compensatory.

If now we take a period of full employment, and consider the possibility of a compensatory price increase, we find that the picture is essentially symmetrical. It can be seen from the equation $K_1(K_0Y_0+\Delta Y_1)=(P_0+\Delta P_1)(T_0+\Delta T_1)$ that in a period of full employment ΔT_1 cannot be greater than zero, because ex hypothesi all factors are being fully utilized. Hence, in response to an outpayment ΔY_1, the general price level must rise far enough, or the average propensity to spend must fall far enough, so that either singly or combined, their effects fully compensate for the increase in spendable funds.

Ezekiel[5] has indicated that changes in spending lag behind changes in disposable income. Therefore a substantial fall in the average propensity to spend cannot be relied upon to bring about an offset to a government outpayment. Can price changes be relied upon to bring about a correct adjustment in a period of full employment? Probably not, for many of the elements which tended to damp down price increases in a period of unemployment now conspire to make the price increases more than compensatory. No longer can the competition of unutilized factors inhibit a price rise, and as the pool of unemployed factors dries up, short-run inelasticity of supply increases; collusive price agreements and price leadership tend to crystallize when business is flourishing;[6] and finally, the whole price structure tends to move upward as production increases. This momentum sweeps away some of the inertia of the

4. Cf. G. Haberler, Prosperity and Depression, Geneva, 1941, pp. 48ff.

5. M. Ezekiel, American Economic Review, "Savings, Consumption and Investment," pp. 22–49, March, 1942, and J. Tinbergen, Review Economic Statistics, "Does Consumption Lag behind Income?", February, 1942.

6. A. R. Burns, The Decline of Competition, New York, 1936, passim.

business community and encourages those businessmen who were deterred from increasing the price of their product to take the chance.

Just as the independence of the price decisions in the various sectors of the economy was relied upon to preclude a compensatory price increase in a period of unemployment, so it can be expected that in a period of full employment they will add up to an amount which is overcompensatory.

It should be noted that in a period of full employment, which means that total national real income is virtually constant, there is, unlike in a period of unemployment, a floor on price increases (assuming that the average propensity to spend is virtually constant in such a period). The price increase which follows an outpayment in such a period must, at a minimum, be sufficient to soak up the excess of disposable funds over the ability of the economy to produce an additional amount of goods. It would appear highly likely, then, that price increases in a period of full employment would be overcompensatory.

If there is an overcompensatory price increase, the total volume of real income producing transactions would, in such a period, decline; the system would become momentarily explosive with prices and the level of spendable funds rising, while total national real income and employment declined. This would be an Alice-in-Wonderland situation indeed, but the explosive potentialities of an unrestrained program of outpayments can be underrated.

Sir William Beveridge has argued that the Government should make outpayments in such a quantity that there would always be more jobs than there are people to fill them.[7] In a period when unemployment is only frictional, however, overcompensatory price increases seem to be the likely result of such a program of outpayments. Hence his objective seems to be unobtainable unless fantastically rigid price controls are imposed. Otherwise the employment administrator charged with the responsibility of always creating, through outpayments, more jobs than there are people to fill them, would find himself in a frustrating situation not unlike that of the unfortunate Tantulus. We concur in Joan Robinson's unhappy conclusion, although we did not arrive by the

7. Sir Wm. Beveridge, Full Employment in a Free Society, New York, 1945, passim.

same route, that in a period of full employment we might well be standing on the edge of an abyss.[8]

Frictional unemployment is, however, at a given time partially relative to the economic environment: it is a function of the geographical distribution of the demand for labor, of the effectiveness with which labor is marketed, etc. Even so, when the level of frictional unemployment has been reached (whatever level that might be), rather precise control of outpayments is required to prevent overcompensatory price increases with their depressing effect on employment.

Public spending programs cannot be entered into cavalierly. Price movements cannot be ignored. Income payments and price movements are not independent. An employment program which ignores these facts can produce chaos.

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8. Joan Robinson, Essays in the Theory of Employment, New York, 1937, Chap. 1.

IN DEFENSE OF MONOPOLY: COMMENT

Mr. K. E. Boulding, in his article, "In Defense of Monopoly,"[1] poses a question of great significance to the operation of the capitalist economy. He suggests that, aside from its other advantages, monopoly is a method, perhaps justifiable, by which business enterprise attempts to guard itself against the destructive effects of deflation. His discussion, which is broad in scope, ranges from the classical indictment of monopoly to the modern savings-investment analysis of the business cycle; his argument, however, is primarily related to short-run considerations of full employment and price policy. Whereas the argument is quite convincing on the thesis that business enterprise may use monopoly as a defense against the destructive effects of deflation, it fails to be convincing as to why this should be true, and it fails to indicate the ultimate implications of monopoly to the problem of deflation itself. In his discussion Mr. Boulding did not contend that monopoly was necessarily a desirable solution to the problem, but he did indicate that the principal economic justification for monopoly was its influence in the prevention of deflation.[2] The writer questions the validity of this contention and will attempt to prove that the economic effects of monopoly tend to generate deflation rather than prevent it.

Mr. Boulding has raised an issue that has received inadequate attention in recent literature. There are at least two important aspects of this question which require further development.

1. To what extent does monopoly *per se* operate as a dyke against the forces of deflation:
   (*a*) as far as the individual enterprise is concerned;
   (*b*) as far as the economy as a whole is concerned?
2. May not monopoly serve to generate deflationary forces that would initiate a general deflation or accentuate a process of price deflation that has already developed?

So far as an individual enterprise is concerned, the existence of monopoly may serve as a form of insulation from the destructive effects of price deflation. This will be true when the existence of monopoly allows a concern to sell its produce at a price that is

1. This JOURNAL, August, 1945, pp. 524–542.
2. Ibid., p. 542.

considerably in excess of average total unit costs and thus earn net profits that would be impossible were the firm to be operating under conditions that more nearly approximated pure competition. Depending on the price elasticity of demand for the product of such a concern, a general price deflation affecting the economy as a whole may only slightly, if at all, change the price charged for this product. A sufficient reduction of demand will cause even monopolistic enterprise to operate at a loss, but a much larger margin of safety exists for monopoly than for competitive enterprise. High cost or marginal producers operating under competitive conditions may be forced to operate at a loss by only a slight reduction in price resulting from a contraction in demand. Since the major portion of competitive enterprise (the higher cost producers), by assumption, usually earns smaller net profits than monopolistic enterprise, it has smaller surplus reserves to utilize during a period of deflation.

There is another more significant aspect of this question, however, for it is quite probable that monopoly can not serve as a dyke against deflation, so far as the economy as a whole is concerned. This condition would arise from the fact that monopoly tends to affect the distribution of the national income in such a manner as to reduce the general level of consumer demand. If this be true, then any argument that attempts to defend monopoly on the ground that monopoly may serve as a dyke against deflation must in reality be false. The apparent advantage of monopoly to the individual concern in this respect is an illusion, or at best a negative advantage to be measured by the less drastic effects which deflation may have upon it in comparison with other competitive firms. Behind this illusion lies the stark reality that in fact the general existence of monopoly, by virtue of its effect on the distribution of the national income, serves to generate the very forces that lead to deflation and business depression.

The hypothesis that monopolistic enterprise, in contrast to competitive enterprise, leads to a reduction in the general level of consumer demand will be based on two assumptions:

(*a*) that it leads to a distribution of the national income in favor of higher earners through increased dividends and salary bonuses;

(*b*) that it leads to the accumulation of idle surplus funds which are not reinvested in the industry and may not be invested elsewhere.

The net effect of the first assumption is an increase in the

general level of savings and a decrease in the general level of consumption.[3] The truth of the second assumption hinges on the validity of the theory that it is unprofitable for monopoly to expand output beyond the point of maximum returns and the institutional theory of the decline in investment opportunities for surplus funds.[4] In contrast, competitive enterprise, operating under conditions where price equals average total unit costs and where no net profits are earned, is under constant inducement to utilize surplus funds available to increase productive efficiency and thus lower costs of operation.

There is another manner in which monopoly may be deflationary in influence, and that is to the degree that it introduces a rigid cost element into the costs of competitive enterprise. Monopoly prices fluctuate far less than the general level of prices, especially prices of goods produced under highly competitive conditions. Much of the output of monopolistic industry must necessarily enter into the cost calculations of competitive enterprise. If the prices of such materials are relatively rigid during a period of deflation, to that extent competitive enterprise will find it difficult to reduce costs in conformity with a fall in the prices of what it produces. This cost rigidity increases the losses suffered by competitive enterprise and tends to increase the number of concerns forced out of business.

The intention of the writer was to introduce new assumptions into the problem raised by Mr. Boulding, in order to show that

3. Boulding postulates that the rate of accumulation, (a), is equal to the rate of production, (p), minus the rate of consumption, (c), $(a = p - c)$. He indicates that the crisis of our time arises from the loss of former investment outlets for savings. Implicit in his argument, therefore, is the idea that net new investment, the rate of accumulation, is a function of the rate of consumption. If monopoly serves to decrease the level of consumption, *pari passu* it is a general deflationary influence. Boulding, op. cit., p. 535.

4. If this assumption be true, then in accordance with Boulding's formula $\left(P = \frac{Mr_a}{Ar_m}\right)$, the tendency of monopoly to hoard liquid reserves would be reflected in an increase in (r_m), the "preferred liquidity ratio," which in turn would decrease the general price level. (Where P = general price level for storable goods, M = total quantity of money, A = total quantity of goods, r_a = "preferred commodity ratio.") (Boulding, op. cit., p. 528.)

The deflationary influence of such a tendency would be primarily dependent on the magnitude of net profits. To the extent that labor employed by monopolistic industry is strongly organized, net profits may be smaller because of a higher level of wage costs, and the deflationary influence of monopoly consequently reduced.

monopoly, though it may be a convenient defensive measure against deflation, so far as the individual enterprise is concerned, in the collective sense is a deflationary influence with respect to the economy as a whole. This condition arises from the imputed general influence of monopoly in a free enterprise economy upon the level of consumption, the extent of investment, and the rigidity of producer costs. These assumptions must naturally be tentative until verified statistically, though the probability of their validity appears to be great. The question of the influence of monopoly upon income distribution and the level of investment should provide a fertile field for future business cycle analysis.

Ralph E. Holben.

Washington, D. C.

FURTHER COMMENT

It is with a sense of surprise and expectation that one turns to a plea by a well-known analytical economist "in defense of monopoly." Have the great majority of economists been wrong in their almost unanimous attack on monopoly? Have we reached another of those turning points in economic theory when we have to revalue our judgments? Well, to anticipate the answer to these questions, it seems to the present writer that Mr. Boulding has not proved his case. Monopoly will still be in the dock.

Let us go into the case in more detail. Mr. Boulding admits the correctness of the "classical" arguments against monopoly, namely, that it has an undesirable effect on the allocation of resources between different industries and on the distribution of incomes between different persons. Were monopolies created solely in order to obtain extra profits, nothing could be said in their favor. But, he adds, this is not the only motive force behind the growing trend towards monopoly. Restrictive measures of all sorts — monopolistic combinations, trade unions, protective tariffs — have largely developed in an attempt to safeguard an economic group against the disastrous effects of deflation. With this statement few economists will disagree. In fact, most trade cycle theorists today assume that the depression period is characterized by an increase in the degree of monopoly, because of the tendency

towards price-fixing and other monopolistic agreements.[1] But Mr. Boulding goes further than this. He says not only that deflation fosters monopolistic trends, but also that — as long as deflation is allowed to occur — these trends will be beneficial by preventing, through the rigidities they introduce, a bottomless deflation. He thinks that economists have not realized that under such circumstances monopoly is a sensible protection of the community against a complete breakdown, a hyperdeflation. "The unjust criticism is that monopoly causes unemployment by preventing the downward movement of the prices both of commodities and of factors of production in times when these downward movements are held to be necessary."[2]

Now, the mistake which Mr. Boulding makes is that he throws all sorts of "protectionist" policies — industrial combinations, trade unions, agricultural restrictionism, tariffs — into one pot, and claims that they *all* act as "stabilizers" in the deflation and unemployment period. It seems to me, however, that a certain differentiation is necessary when judging the effect of these various monopolistic tendencies.

Cyclical deflation is not, as Mr. Boulding clearly realizes, due to price flexibility. It is due, as he shows very lucidly, to the fact that the rate of accumulation must decline when a certain point is reached, and that — so far — we have not yet devised a mechanism in peace-time which would increase consumption sufficiently to take up the slack created in the investment-good industries. "There are only two ways to lessen the rate of accumulation; one is to increase consumption, the other is to diminish production. The sensible solution would seem to be to increase the consumption of those goods which give rise to wholesome pleasures and a high standard of life. This solution is either too simple or too sensible for us: we prefer either to increase the consumption of materials of war or to diminish production through unemployment."[3]

If, then, the deflationary unemployment can only be eliminated

1. The one outstanding writer who takes a different view is Mr. Harrod, who maintains in his essay on The Trade Cycle that the consumers' search for cheaper markets in times of depression tends to make industry more competitive.

2. Op. cit., p. 527. For a good presentation of the view that monopoly aggravates the unemployment problem in times of depression, see E. A. G. Robinson, Monopoly, Chap. VII.

3. Op. cit., p. 535.

by stimulating consumption (and investment), the controversy, monopoly vs. price flexibility, can only be decided by analyzing their relative effects on consumption and investment. If there were nothing to choose between them in this respect, none would be preferable, as far as a solution of the deflationary evil is concerned. If we deal with the economy as a whole, rather than with one particular industry, the question whether the one system or the other is to be preferred cannot be solved by drawing a line between elastic and inelastic demand, as Mr. Boulding does. For the *total* effective purchasing power in both systems will not be determined by the various elasticities of demand,[4] but by the consumption and investment decisions of the community.

But it is just because industrial combinations usually have a depressing effect on consumption that the critical attitude towards monopolies is not only justified but strengthened in times of deflation. The monopolistic agreements between firms in times of deflation aim, above all, at a full recovery of their overhead costs. That is to say, it is an attempt to keep interest on capital, depreciation allowances, and "normal" profits as far as possible stable at a time when incomes over a wide field are falling. This will increase the relative share of interest and profits in the national income, which comes to the same as a transfer of money from wages and small farmers' incomes to the higher income groups.[5] But this is exactly a tendency which will strengthen the deflationary trends. Consumption will be reduced, while the monopolists and creditors, with all the excess capacity around them, will have no incentive to invest money.

The foregoing argument explains why I said in the beginning that monopoly has not even been partly justified. At the same time, it shows why our attitude towards the "protectionist" policies of workers or small farmers in times of deflation has to be different. To a large extent their activities are only defensive, i.e., they try to hold their own in an economic environment where prices are becoming increasingly fixed.[6] If they succeeded in keeping their

4. The different elasticities of demand are an important factor in determining the *incidence* of the deflation on the various industries.

5. For an interesting theoretical approach showing how an increase in the degree of monopoly lowers the share of wages in the national income, the reader is referred to M. Kalecki, Essays in the Theory of Economic Fluctuations, Chap. 1.

6. Mr. Boulding probably overestimates the influence of deflation on the wage tactics of trade unions in his paragraph on the "standard rate" on

incomes even more rigid than prices, then the distribution of incomes would be changed from profits and interest to wages, a change which would, on the whole, stimulate consumption and thus contribute to a reversal of the deflationary process. It is only in this case that monopolistic tendencies will have that beneficial effect which Mr. Boulding claims for them in general.

Two modifications have to be added to the main argument of this paper. There *is* a way in which industrial combination in times of deflation may shorten the depression. And though Mr. Boulding does not mention this case, I think it has often been a reason for government support of monopolistic measures. Deflation means a reduction in output. Under monopolistic conditions this reduction is largely brought about by spreading unused capacity fairly evenly over the whole industry or by the "orderly" closing down of some factories. Under a competitive system the struggle for survival that follows a deflation will leave some firms with an output not much below the pre-depression level, while others will go bankrupt. Now it is quite possible that bankruptcies have a much worse effect on business psychology than the reduction of selling opportunities through price-fixing, cartellization and trustification. So far as a high mortality among firms discourages investment, quite apart from what the objective prospects for the future are, monopolistic arrangements will have a beneficial effect on employment. And this will have to be taken into account when the negative effects on consumption are considered.

The second case refers to protective tariffs. Such tariffs are, of course, monopolistic measures, with all the usual objections against monopoly applying to them. But they might be a real barrier against deflation in a world where economic policies are determined independently by sovereign national states. If a deflationary policy is followed in a foreign country, whose economic policy cannot be influenced, then a protective tariff will help the home country to isolate itself from external deflationary pressure and to adopt or continue an expansive full employment policy.

K. W. Rothschild.

Glasgow University

p. 538. The main reasons for the use of standard rates are the simplicity they introduce into the administration of collective bargains and the barrier they set to monopsonistic exploitation and discrimination. With regard to the latter, see Joan Robinson, The Theory of Imperfect Competition, Chap. 26.

REPLY

I am grateful to Mr. Holben and Mr. Rothschild for their comments, which help to clear up some confusions caused, I fear, in part by my dubious use of irony, and which raise questions very much in need of an answer.

I should perhaps have made it clearer in my article that I did not regard monopoly as a socially desirable solution to the problem of deflation, nor even as an effective solution, which it is not. What I attempted to show was that protectionism generally is the only recourse of a single group faced by a general deflationary movement, in the absence of any general political or economic solution. This is true, even if the action of all groups together is self-defeating, as it well may be. To use an analogy from political life: everyone knows that war cannot be prevented by national armaments, and that national armaments are in themselves an important occasion for war; yet in the absence of any adequate world political order, each nation feels that its only recourse against an armament race is to participate in it. The moral is that we shall achieve peace, not by imploring the nations to disarm, but by creating enough of a super-nation to make national armaments useless and repugnant. The moral of the monopoly argument is likewise that we shall achieve "competition," not by preaching against monopoly or even by legislating against it — though in some cases specific anti-monopoly legislation may be advisable — but by creating an economic order from which the fear of general deflation has been removed.

Much of the confusion in the literature of monopoly arises from a semantic cause: that the word "competition" has at least two, if not more, quite different meanings. "Competition" in the sense of freedom of innovation — i.e. freedom for a popularly preferred pattern of doing things to displace a less preferred pattern — is the necessary condition of progress, political or economic. Competition, however, also bears another meaning: freedom of undercutting; freedom to compel a general reduction in the monetary level of prices and wages. It is this second freedom which is of doubtful value to society, and it is because monopoly — whether of a trade union, of a trust, or of an industry sheltering behind a tariff wall — curtails this second freedom that it gains social approval and becomes so difficult to get rid of. The tragedy of our situation lies in the fact that it seems to be impossible for us, by

merely private actions, to curtail the second freedom without curtailing the first.

The question raised by both my critics as to the actual "macroeconomic" effects of monopoly on consumption, investment, and employment is to my mind the most important unsolved question in economics. It is by no means certain that monopoly shifts distribution in favor of profits, as opposed to wages. Here it is easy to be led astray by the "fallacy of composition": what may be true of a single monopoly may not be true of the whole. The total *undivided* profits of business in any period consists in the growth of the total net worth of enterprises. This, in turn, consists of three elements: (i) the growth in the value of existing physical capital due to a rise in prices; (ii) the value of "new investment" — i.e. of the addition to physical capital; (iii) the net liquid assets transferred to business from individuals, plus accruals to business of any new liquid assets created. Any of these three elements may, of course, be negative. If the general level of prices is falling, the first item will be negative, and the anticipation of falling prices is likely to lead to a reduction in the second item also. Total profits are equal to undivided profits plus dividends and interest: the more business distributes in dividends and interest, the greater total profits are likely to be. (This is the "Widow's Cruse" and the "Danaid Jar" of Mr. Keynes "Treatise.") Anticipation of falling prices is likely to reduce business distributions; and unless this is balanced by increased transfers of money from the public to businesses, total profits will fall. Deflation, therefore, and anticipated deflation, is highly destructive to profits, and actually shifts the distribution of income away from profits and interest towards labor — as the experience of the great depression clearly showed. It is by no means certain, therefore, that an increase in the competitiveness of the economy *in an already deflationary situation* would have the effect of increasing labor income at the expense of profits and interest. The extra profits which one monopolist gains may be at the expense of *other profits;* the extra wages which one labor union gains may be at the expense of other wages. Until we know much more about the macroeconomic effects of the "state of the market," we cannot, I think, give any answer to the question of the effect of monopoly, either on the distribution of income or on consumption, investment, and employment.

One conclusion, however, surely emerges from this discussion.

It is that no solution of the monopoly problem is possible in the absence of a solution to the monetary problem — i.e. the inflation-deflation problem. It may be equally true that no solution to the monetary problem is possible without a solution to the monopoly problem. The nightmare of the monetary theorist is the situation in which the creation of liquid assets, designed to raise employment and output by raising monetary demands, in fact results in a rise in the general level of prices and wages even while there is a large volume of unemployment. It is probable that this situation will always confront us in the presence of monopoly, unless we have strict price and wage control. The logic of monetary-fiscal policy therefore may present us with an insoluble dilemma, unless — paradoxically enough — the price-deflationary forces of competition can be strengthened, and the monopolistic forces in society prevented from turning rising incomes into rising price and wage levels.

K. E. Boulding.

McGill University

EXCHANGE-RATE PARITIES: COMMENT

In a recent article in this JOURNAL,[1] Mr. Garnsey uses Belgian exchange-rate experience of a decade ago to resuscitate the doctrine of purchasing power parity under the name of "price disparity." One of his main conclusions is that the concept of price disparity is superior to, and a virtual substitute for, the balance-of-payments approach to exchange-rate determination. And readers of this JOURNAL will be surprised to learn that he comes to this conclusion despite the fact that the first part of his article stresses general equilibrium aspects of the problem. Although the article contains many interesting points, principally in connection with Belgium's relatively recent experience, this note will only be concerned with the author's contention that the price-disparity concept is a sufficient criterion of the appropriateness of a given exchange rate, subject only to a consideration of what are called "qualitative" factors, whereas the balance-of-payments approach is devoid of "fundamental criteria" (and by implication boils down to "blind trial and error").

The index of price disparity is defined as 100 times country X's gold cost-of-living index/country Y's gold cost-of-living index. Cost-of-living indices are used in this formulation because they are supposed to be the most satisfactory indicator of national price adaptation. A negative index calls for devaluation by the denominator country, and vice versa. Mr. Garnsey submits that the price-disparity concept avoids the objections raised against the purchasing power parity theory. For the purposes of this note, we shall assume that he is right, but his concept nevertheless remains one which is defined in terms of price (and cost) disparities, differences, or comparisons. Non-price phenomena are excluded from consideration, since they are regarded as neither basic nor quantitative.

In order to show the vulnerability of Mr. Garnsey's thesis, one need merely enumerate and roughly evaluate the exchange-rate significance of matters, relevant and substantial, which are *completely* ignored. The most important of these are the following:

1. M. E. Garnsey, "Postwar Exchange-Rate Parities," this JOURNAL, November, 1945.

(1) demand elasticity, both income and price, (2) the degree of employment prevailing in major countries, and (3) the behavior of invisible items (including capital) of the balance of payments.

The omission of elasticity features from a discussion of exchange-rate determination is as inadmissible as the attempt to explain price solely in terms of cost factors. Price changes per se are undoubtedly more important than any other single element, but in particular cases demand elasticity may negate or reinforce price effects. In substance, Mr. Garnsey's argument makes the inadmissible implicit assumption that the rôle of elasticity is neutral. To the extent that it is not neutral, price disparity reasoning would lead to conclusions which are misleading in material respects, the Belgian experience notwithstanding.

A much more important omission is that of the employment factor. In effect, he assumes full employment, as witness his repeated reference to the now-repudiated notion of "the" equilibrium rate of exchange. In the light of all that has been written in recent years about the United States in the world economy, one would have thought that no serious discussion of exchange-rate problems would overlook the factor of employment. Take the case of countries A and B, which normally have a large trade with the United States. A comparison of prices, or an index of price disparity, may indicate that country A's exchange rate should be appreciated relative to B's; but if A is primarily an exporter of industrial raw materials, whereas B is an exporter of tropical foodstuffs, substantial unemployment in the United States, which typically results in a large relative decline in American imports of industrial raw materials, will in all likelihood dictate an exchange-rate change just the reverse of that called for by price (and cost) comparisons alone, however computed.

Finally, it cannot be assumed that a country's invisible receipts and payments will be neutral with respect to the determination of an appropriate exchange rate. A country with an unfavorable index of price disparity may be receiving a substantial volume of long-term capital, or it may be especially favored by foreign tourists, or its nationals may have just succeeded in profitably cartellizing an important raw material industry. These and related matters obviously fall outside the scope of an analysis which runs in terms of prices (and costs).

It follows from this brief discussion, therefore, that only bal-

ance-of-payments analysis is broad enough to cope with the problem of exchange-rate determination. This problem does not admit of easy solution by means of formulae — at least not in the present state of our knowledge of the subject. When the authors of the International Monetary Fund left the central concept of "fundamental equilibrium" undefined, they were mindful of the fact that a price formula, however skillfully formulated, would be quite insufficient to the task. They knew full well that the importance of prices in exchange-rate determination is today no greater than on the day on which the purchasing power parity concept, regarded as a tool adequate in and of itself, was unceremoniously buried. About all that can be said for purchasing power parity or price disparity is that it provides an exceedingly rough basis for determining tentative exchange rates after a period of confusion, such as occurs in the case of occupied countries at the end of major wars. Since we are now emerging from the period of confusion, it would appear that there would be far greater progress if more nations prepared meaningful balance-of-payments statements and issued them not less frequently than on a quarterly basis. In competent hands, such material will provide the grounds for exchange-rate decisions most nearly approaching the appropriate ones. The method will be the ever-modern one of trial and error.

Virgil Salera.

Miami University, Ohio

REPLY

The comments of Mr. Salera on my article seem to be based largely upon a misunderstanding of its purpose and content. To attempt to dispell all of his misconceptions would require too much space, so that I shall confine myself to a restatement of the purpose of the article and to comments on his three major criticisms.

The article *does not* attempt to "resuscitate" the doctrine of purchasing power parity as such. It *does* attempt to make use of the important core of truth in the purchasing power concept. That such a core exists surely no one will attempt to deny. Professor Hansen has called attention to it in his "Brief Note on 'Fundamental Disequilibrium.' "[1] Haberler also recognizes it

1. Hansen, Alvin H., "A Brief Note on 'Fundamental Disequilibrium.' " Rev. Econ. Stat. Vol. XXVI, No. 4, pp. 182–184.

when he says, "Although the theory of purchasing power parity has therefore only a restricted field of application, the fundamental conception which distinguishes it from the balance of payments theory is both correct and important. While the price-levels of different trading countries may diverge, their price systems are nevertheless interrelated and interdependent, although the relation need not be that of equality."[2] In these sentences, Haberler emphasizes the basic concept which Cassel used as the foundation for his theory. To it may be added the corollary that the exchange rate is a key price of great importance when two or more monetary systems are included in the definition of the universe of prices.

What was attempted in the article, then, was to make use of that part of purchasing power parity which is valid; and, in the light of Belgian experience, to broaden and expand the concept of price system relationships into a useful tool which might be used in the search for a solution to the problem of international monetary stability. This broader concept may be briefly stated, or restated, as follows. At a given moment the price systems of two national economies stand in a relationship to each other which permits specialization and exchange and normal economic intercourse between them. At the same time the relationships of individual prices *within* each system are "normal" or "stable." Such a situation is usually described by economists as a situation in which "equilibrium" exists. Under such conditions there will be an appropriate or "equilibrium" rate of exchange, Mr. Salera's comments notwithstanding. Sooner or later, dynamic changes of considerable magnitude will be introduced into this situation of stability or equilibrium. A depression and deflation occur, or a war and inflation; or even, in the longer run, a fundamental shift in the pattern of resource use. Concurrently, the prices of individual commodities change in response to the new conditions. Price disparities develop *between* the two systems. In addition, price disparities or distortions develop *within* each of the systems. Thus we are in the presence of *both* internal and external price disparities. The exchange par, however, is fixed by law and often also by direct intervention in the market. Clearly, the existing par rate of exchange is no longer appropriate to the new situation. The price of foreign exchange at parity is not in equilibrium with

2. Haberler, "The Theory of International Trade," Hodge, English Edition, 1937, p. 38.

other prices. Under these circumstances, a revaluation of the currency may very well be the basis of an economic policy which can be employed to restore equilibrium among prices, both within the national system and between it and other national systems. If so, the problem of choosing the appropriate rate of revaluation is obviously a consideration of primary importance.

The technique which the Belgian economists brought to bear on this problem owes much to the old purchasing power parity theory. However, it also goes beyond it, not only in stressing external disparities, but also in emphasizing internal disparities. Equally important, it attempts to determine the extent to which the internal price disparities are the result of forces indigenous to the economy and the extent to which they are the result of external factors and thus amenable to influence by means of currency revaluation.

The approach, therefore, is new and of much wider application than the old purchasing power parity theory. The procedures also are much in advance of those of the '20's, but to outline them would involve too much repetition of the points made in the original article.[3]

With the foregoing résumé in mind, we may consider Mr. Salera's three major criticisms. According to the first, my "argument makes the inadmissible implicit assumption that the rôle of elasticity is neutral. To the extent that it is not neutral price disparity reasoning would lead to conclusions that are misleading in major respects, the Belgian experience notwithstanding." This is, of course, a familiar criticism of the purchasing power parity theory, to be found in every contemporary elementary textbook on International Trade. In these books, however, the criticism explicitly or implicitly refers to the Casselian equation of purchasing power parity, which utilizes global indexes of wholesale prices. The price-disparity index used by the Belgians and described in my article is, of course, based on indexes of the cost-of-living. As such, it is intended to indicate the nature of structural distortions between two price systems. It is not directly or primarily concerned with the prices of commodities which move in international trade.[4] Hence Mr. Salera's criticism is irrelevant,

3. See Part III, pp. 124–131.

4. Note also my suggestion for a different type of external price disparity index based on international commodity prices, pp. 127–128.

and apparently based on a misunderstanding of the nature of the Index of Price Disparity.

Mr. Salera's second point is his statement that I have "assumed full employment" and alternatively that I have "overlooked the factor of employment." It is true that I have not been as explicit about the rôle of employment as I might have been, and for this I apologize to Mr. Salera and the interested reader. Nevertheless, I feel that Mr. Salera's assumptions as to what I have implicitly assumed are quite unjustified. The reader will recall that my article describes the method for choosing a new exchange parity used in the Belgian devaluation of 1935, and sketches the nature of economic conjuncture in Belgium at the time the method was employed. It is obvious that in 1935 the Belgian authorities were primarily concerned with the problem of the large-scale unemployment of men and resources in their economy. Their interest in price disparities arose out of the relationship of prices and exchange rates to opportunities for profitable employment, not from a purely intellectual interest in an abstract problem. It is equally obvious that, in this respect, the Belgian case is not a special case but one of general application. Whenever established price relationships become distorted as a result of dynamic changes or cyclical fluctuations, resources of men and materials will become unemployed and patterns of resource use distorted. Therefore, it is difficult for me to understand why anyone should have supposed that I have "overlooked" the factor of employment. Price and cost changes affect profits, and profits and losses, realized or anticipated, affect decisions to employ or not to employ men and materials.

There is, however, another possible interpretation of Mr. Salera's criticism. He may mean that the level of employment is a factor which would alter the significance of a particular value for a price disparity index and thus require an "adjustment" in the index before a rate of revaluation could be decided upon.

If this is his meaning, he undoubtedly is thinking again of the proper interpretation of the balance of payments criterion; for, as Nurkse points out, equilibrium in the balance of payments can be secured at different levels of income and employment and different rates of exchange.[5] He then goes on to point out that since

5. As quoted from Nurkse, International Currency Experience, by Haberler, "Currency Depreciation and the International Monetary Fund," Review of Economic Statistics, Vol. XXVI, No. 4, pp. 180–181.

this is so, the "true equilibrium" rate should be identified with conditions of full employment, or minimum unemployment.

Certainly these considerations do apply to the proper interpretation of the balance of payments criterion; and the possibility that several different rates can fulfill the technical qualifications of equilibrium is, in my opinion, one of the important shortcomings of the criterion.

On the other hand, the above argument does not apply to the Index of Price Disparity. Commodity prices, costs as prices, and the exchange rate as a price are all parts of a total universe of prices. When, at a given time, distortions of old relationships exist within this universe, the economy will be out of balance and resources unemployed. Theoretically, it is possible to move from the position of unbalance in the price system in an infinite number of directions toward any one of an infinitely large number of possible equilibria. Pragmatically, the choice is much more limited. In a depression, as a typical case, rising prices will close disparity gaps and stimulate production. How far along this path must one go before reaching equilibrium and stability? In situations where national economic systems are involved and the exchange rate plays a dominant rôle, the Index of Price Disparity can do much toward supplying the correct answer to the question just posed. It defines quantitatively *the* pragmatically feasible rate of exchange which is consistent with full employment. Employment, consequently, enters the picture in a definite and explicit manner. It is one of the most important of the qualitative elements which must be considered in choosing a rate of revaluation.[6]

Mr. Salera's third criticism is that I have ignored "the behavior of invisible items (including capital) of the balance of payments." He asserts that invisible items "obviously fall outside the scope of an analysis which runs in terms of prices (and costs)." His examples hardly prove his point. Surely, if a country is "especially favored by foreign tourists," it will be mainly because prices

6. It is worthwhile to note that the extent to which, and the manner in which, the employment factor is to be considered in exchange-rate policies is still a matter of controversy. In December, 1945, the American Economic Association circulated an International Monetary Questionnaire to a panel of experts. One question dealt with methods for the determination of exchange-rate parities. The question was concluded by asking, "Would your answers be different (1) assuming full employment in different countries, (2) less than full employment?" The results: (1) Yes 8, No 10; (2) Yes 10, No. 11. I think the reader will agree that this division of opinion is most interesting.

of travel and lodging are attractive in that country. We all can recall the price competition for tourists in the '30's, as evidenced by special tour rates, Reisemarks, etc. Tourist travel is as much a reflection of the attraction of price as of the attraction of castles and cathedrals. A second example refers to the effect on exchange rates of the "cartellizing of an important raw material industry." But surely such a policy also will be reflected in price as well as in the volume of foreign exchange. Nor are capital flows, Mr. Salera's third example, unrelated to price and cost situations. The receipt of a substantial volume of long-term capital is, at least in part, the result of the existence of attractive investment opportunities. Investment opportunities are in large part the result of profit, price, and cost relationships.

Moreover, capital flows may offer the explanation of a situation in which the balance of payments remains in balance in the face of severe price distortions which are gradually strangling the life out of a suffocating economy. This was the case in Belgium in the early '30's and in Great Britain in 1925-30. It may well be the case in the industrialized countries of Europe in the future.[7]

Finally, Mr. Salera concludes, on the basis of his brief discussion, "that only [the] balance of payments analysis is broad enough to cope with the problem of exchange-rate determination." This statement is much too sweeping. The balance of payments criterion taken alone is not a sufficient criterion for determining the presence or absence of fundamental international equilibrium. Neither, of course, is the price disparity criterion. Both must be used and numerous other factors must be given consideration before it will be possible to determine, at a particular time, if a country is in a position of disequilibrium and currency revaluation a useful instrument for restoring equilibrium.

Recently most of the discussion of the problem of defining fundamental equilibrium has centered around the balance of payments concept. Apparently the basic importance of the price disparity concept has been obscured by its unfortunate association with a disreputable companion — the earlier doctrine of purchasing power parity. However, it is to be hoped that this uncharitable and uncritical condemnation will be of brief duration. The sig-

7. Dupriez, L., "Postwar Exchange-Rate Parities: Comment," this Journal, Vol. XL, No. 2, pp. 306–307. Also Nurkse (op. cit., p. 125), and Haberler (op. cit., p. 179).

nificant core of truth in the older doctrine must not be neglectec and once the idea of the relationship of price systems is firm grasped, it is impossible to ignore the importance of price di parities as factors in exchange stability.

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RECENT PUBLICATIONS

ᵊBOTT, CHARLES C. Financing Business during the Transition. New York: McGraw-Hill Book Company. 1946. pp. 141. $1.75.

ᴌLLEN, ETHAN P. Policies Governing Private Financing of Emergency Facilities, May 1940 to June 1942. Washington, D. C. War Production Board. Civilian Production Administration, Bureau of Demobilization. 1946, pp. 96.

ᴌMERICAN JEWISH COMMITTEE. Toward Peace and Equity. New York. The Committee. 1946. pp. 152.

ᴛᴛEBERRY, GEORGE; AUBLE, JOHN; HUNT, ELGIN. Introduction to Social Science. New York. The MacMillan Company. 1946. pp. 787. $4.00.

.ER, HELEN. The Office Library of an Industrial Relations Executive. Princeton University. Industrial Relations Section, Department of Economics and Social Institutions. 1946. pp. 35. 50 cents.

RANT, IRVING. The New Poland. New York. Universe Publishers. 1946. pp. 116.

ɪUGHTON, PHILIP S. For a Stronger Congress. New York. Public Affairs Committee, Inc. 1946. pp. 32. 10 cents. Public Affairs Pamphlet No. 116.

HNER, RICHARD. Unternehmung Und Markt. Zurich, Switzerland: Schulthess and Company. 1946. pp. 11.

.ɴADA, DEPARTMENT OF LABOUR. Wages and Hours in the Primary Textiles Industry in Canada, 1944. Ottawa: The Department. 1946. pp. 21.

—. Labour Organization in Canada — 34th Annual Report. Ottawa: The Department. 1946. pp. 89. 25 cents.

—. Labour Legislation in Canada in 1944. Ottawa: The Department. 1945. pp. 127.

—. Wage Rates and Hours of Labour in Canada, 1943. Ottawa: The Department. 1945. pp. 94.

CARSKADON, T. R. AND WILLIAMSON, S. T. Your Stake in Collective Bargaining. New York: Public Affairs Committee, Inc. 1946. pp. 32. 10 cents.

CHAMBERLIN, EDWARD The Theory of Monopolistic Competition. Cambridge, Massachusetts: Harvard University Press. 1946. pp. 275. $3.50. Fifth edition.

CHASE, STUART, COLDWELL, M. J. ET AL. A Program for Labor and Progressives. New York: League for Industrial Democracy, Inc. 1946. pp. 48. 25 cents.

CITIZENS' FACT-FINDING MOVEMENT OF GEORGIA. Georgia Facts in Figures. Athens, Georgia: University of Georgia Press. 1946. pp. 178. $2.00.

CLIFFORD, A. M. Investment Conditions and Outlook. Los Angeles, California: Anderson & Ritchie: The Ward-Ritchie Press. 1946. pp. 26.

CLOUGH, SHEPARD B. A Century of American Life Insurance. New York: Columbia University Press. 1946. pp. 402. $4.50.

COULTER, JOHN LEE. Public Opinion in the U. S. on Foreign Trade. New York: The American Tariff League. 1946. pp. 23.

FELLNER, WILLIAM J. Monetary Policies and Full Employment. Berkeley, California: University of California Press. 1946. pp. 268. $3.50.

FESLER, JAMES W. Alcohol Policies of the War Production Board and Predecessor Agencies, May 1940 to January 1945. Washington, D. C.: Civilian Production Administration. 1946. pp. 131.

——. Development of the Reconversion Policies of the War Production Board, April 1943 to January 1945. Washington, D. C.: War Production Board. 1946. pp. 181.

FINNEY, H. A. Principles of Accounting, Intermediate. New York: Prentice-Hall, Inc. 1946. pp. 873. $6.65.

FOSDICK, RAYMOND B. The Rockefeller Foundation, A Review for 1945. New York: The Foundation. 1945. pp. 63.

GAMBS, JOHN S. Beyond Supply and Demand, A Reappraisal of Institutional Economics. New York: Columbia University Press. 1946. pp. 105. $1.60.

GERTH, H. H. AND MILLS, C. WRIGHT. From Max Weber: Essays in Sociology. New York: Oxford University Press. 1946. pp. 490. $5.00.

GRAY, HERMAN. Should State Unemployment Insurance be Federalized? New York: American Enterprise Association, Inc. 1946. pp. 71. 50 cents. National Economic Problems Pamphlet No. 419.

HANSEN, ALVIN H. Fiscal Policy for Full Employment. New York University. Institute on Postwar Reconstruction. 1946. pp. 23.

HARPER, F. A. The Food Situation. New York: American Enterprise Association, Inc. 1946. pp. 30. 50 cents. National Economic Problems Pamphlet No. 421.

INSTITUTE OF ECONOMICS AND FINANCE. Proceedings of the Institute of Economics and Finance, Occidental College, Los Angeles, Fourth Session, February 28, March 1, 2, 1945. Los Angeles, California: The Institute. 1945. pp. 161.

JONES, DRUMMOND AND MCCAULEY, MARYCLAIRE. Resumption of Production of Domestic Electric Flat Irons. Washington, D. C.: War Production Board — C. P. A. Bureau of Demobilization. 1946. pp. 113.

KIDNER, FRANK L. California Business Cycles. Berkeley, California: University of California Press. 1946. pp. 131. $2.50.

KIMMEL, LEWIS H. Depreciation Policy and Postwar Expansion. Washington, D. C. The Brookings Institution. 1946. pp. 66. 50 cents.

KINGSBURY, LAURA M. The Economics of Housing, as Presented by Economists, Appraisers, and Other Evaluating Groups. New York: Columbia University Press. 1946. pp. 177. $2.50.

KREDIETBANK, S. A. L'Evolution Economique de la Belgique, 1939–1945. Brussels, Belgium. The Bank. 1946. pp. 44.

LEAGUE OF NATIONS. Report on the Work of the League During The War. Geneva: The League — Distributed by Columbia University Press. 1945. pp. 167. 50 cents.

LEVENSTEIN, AARON. The Atomic Age. New York: League for Industrial Democracy, Inc. 1946. pp. 39. 15 cents.

LIBRARY OF CONGRESS. Annual Report of the Librarian of Congress. Washington, D. C.: U. S. Government Printing Office. 1946. pp. 233.

LOEB, HAROLD. Full Production without War. Princeton, New Jersey: Princeton University Press. 1946. pp. 284. $3.50.

MANDELBAUM, K. The Industrialisation of Backward Areas. Oxford, England: Basil Blackwell. 1945. pp. 111. 10s. 6d.

MARCHAL, JEAN. Le Mécanisme des Prix et La Structure de L'Économie. Paris: Librairie de Medicis. 1946. pp. 250.

MAVERICK, LEWIS A. China — A Model for Europe. San Antonio, Texas. Paul Anderson Company. 1946. pp. 334.

MAY, SAMUEL C. AND NORRIS, ALFRED G. Estimates of California Employment and Unemployment, 1946–1947. Berkeley: Bureau of Public Administration — University of California. 1946. pp. 49.

McAleer, James A. Farm Machinery and Equipment Policies of the War Production Board and Predecessor Agencies, May 1940–September 1944. Washington, D. C.: War Production Board — C. P. A. Bureau of Demobilization. 1946. pp. 191.

McCauley, Maryclaire. Concentration of Civilian Production by the War Production Board, September 1941 to April 1943. Wsahington, D. C.: War Production Board — C. P. A., Bureau of Demobilization. 1946. pp. 129.

McGrane, Reginald C. The Facilities and Construction Program of the War Production Board and Predecessor Agencies, May 1940 to May 1945. Washington, D. C.: Civilian Production Administration. 1946. pp. 246.

Mowry, George E. Landing Craft and the War Production Board, April 1942–May 1944. Washington, D. C.: War Production Board — C. P. A. Bureau of Demobilization. 1946. pp. 76.

Muntz, Earl E. Proposals for Health, Old-Age and Unemployment Insurance. Washington, D. C.: American Enterprise Association, Inc. 1946. pp. 87. 50 cents.

National Planning Association. National Policy for Aviation. Washington, D. C. The Association. 1946. pp. 68. 50 cents.

Odum, Howard W. and Jocher, Katharine. In Search of the Regional Balance of America. Chapel Hill, N. C.: University of North Carolina Press. 1945. pp. 162. $3.00.

Pierson, John H. G. Full Employment in Practice. New York University: Institute on Postwar Reconstruction. 1946. pp. 26.

Posnack, Emanuel R. The 21st Century Looks Back. New York: The William-Frederick Press. 1946. pp. 241. $2.75.

Short, Lloyd M. Personnel Problems Affecting Social Scientists in the National Civil Service. New York: Social Science Research Council. 1946. pp. 35.

Silberner, Edmund. The Problem of War in Nineteenth Century Economic Thought. Princeton, New Jersey. Princeton University Press. 1946. pp. 332. $3.00.

Social Science Research Council. Theory and Practice in Historical Study: A Report of the Committee on Historiography. New York: The Council. 1946. pp. 177. $1.75.

Steindl, Joseph. Small and Big Business. Oxford, England: Basil Blackwell. 1945. pp. 66. 5 s.

Stigler, George J. Domestic Servants in the United States, 1900–1940. New York: National Bureau of Economic Research. 1946. pp. 44. 50 cents.

——. The Theory of Price. New York: The MacMillan Company. 1946. pp. 340. $3.75.

Swanson, Ernst W. and Schmidt, Emerson P. Economic Stagnation or Progress. New York: McGraw-Hill Book Company. 1946. pp. 212. $2.50.

Taylor, Amos E. Foreign Trade and Full Employment. New York University: Institute on Postwar Reconstruction. 1946. pp. 20.

United States Securities and Exchange Commission. Securities Exchange Act of 1934. Philadelphia: The Commission. 1946. Releases 3803–3821.

——. Securities Exchange Act of 1940. Philadelphia: The Commission. 1946. Releases 876–898.

——. Holding Company Act of 1935. Philadelphia: The Commission. 1946. Release 6626.

——. Statistical Bulletin. Philadelphia: The Commission. 1946. pp. 14. Vol. 5, No. 3, No. 4.

——. Statistical Series. Philadelphia: The Commission. 1946. pp. 4. Nos. 760, 761.

Survey Series. Philadelphia: The Commission. Nos. 93, 94.

WHITTLESEY, CHARLES R. National Interest and International Carte New York: The MacMillan Company. 1946. pp. 172. $2.50.

WILCOX, JEROME K. Official War Publications. Berkeley: Bureau of Pub Administration, University of California. 1945. pp. 236.

WILTSE, CHARLES M. Evolution of Premium Price Policy for Copper, Le and Zinc, January 1940–November 1943. Washington, D. C. War Pr duction Board — C. P. A. Bureau of Demobilization. 1946. pp. 56.

——. Lead and Zinc Policies of the War Production Board and Predecess Agencies, May 1940–March 1944. Washington, D. C.: War Producti Board — C. P. A. Bureau of Demobilization. 1946. pp. 128.

——. Mercury Policies of the War Production Board and Predecessor Age cies, May 1940–March 1944. Washington, D. C.: War Production Boa — C. P. A. Bureau of Demobilization. 1946. pp. 59.

WOOD, LAURENCE I. The United States Patent System. Washington, D. (American Enterprise Association. 1946. pp. 39. 50 cents.